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ORIGINAL LECTURES.

LECTURES
ON
THE CHEMISTRY OF THE POISONS;
OR ON
PRACTICAL TOXICOLOGY.
SHOWING THE APPLICATIONS OF CHEMISTRY TO THE DISCOVERY OF CRIME.

By H. LETHEBY, M.B., Lond:
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LECTURE I.

Objects of the course.—Importance of the study of Toxicology.—Assistance it gives to the medical practitioner when in the witness-box.—Its importance in a more general point of view.—Its bearing on the public health and safety.—Frequency of the crime of poisoning.—Circumstances which tend to favour the development of the crime; indiscriminate sale of poisons; use of poisonous pigments for confectionery; unwholesome food, &c.

It is my intention, gentlemen, to occupy a portion of your time, during the ensuing summer session, in making a practical inquiry into the leading facts connected with *chemical toxicology*. In other words, I propose that you should be engaged in conducting an experimental examination of the physical and chemical properties of the various poisons, and in ascertaining the respective values of those important processes which have, from time to time, been introduced as a means of effecting the qualitative or quantitative determination of such substances.

We shall thus, I hope, be enabled, not only to obtain an insight into the duties of the chemico-legal analyst, but also to perceive the many difficulties which beset his path, and to learn in what manner these difficulties may be overcome.

And, gentlemen, in order to incite you to take a lively interest in the work which will thus devolve upon us, let me entreat you to consider that your reputations may be, at some time, deeply concerned in it; for, as the active practice of your profession must often lead you to the discovery of crime, so it must bring you into relation with the forum, and expose you to the dangers of the witness-box.

Some of you may, perhaps, regard these dangers as light matters, and may think that a good general knowledge of your Profession will, at all times, bear you harmless through them, and enable you to defeat the purposes of an acute, and too often merciless, advocate. But, allow me to apprise you of the fallacy of such an opinion, and to remind you, that in by far the greater number of cases in which your reputation will be so assailed, the touchstone will be applied, not to the groundwork of your knowledge, but rather to the frail and more subordinate portions of it; and, although I will not go the length of asserting that the instances are few in which medical witnesses have come down from such an ordeal without suffering more or less injury to their reputations, or that no one has ever gained a positive increase of credit therefrom, yet I hesitate not to say, with a high authority on this question, that there is not any position in which a medical man can be placed in which his character is so powerfully menaced, or his personal convenience so seriously interfered with.

All this, gentlemen, arises from the deep responsibility of your offices as Medical men, and from the high value which is very properly attached, by both judge and jury, to your professional opinions; for, remember, it is to you that the agents of justice ever turn, in the expectation of your being able to throw a light on the difficulties which surround a grave charge of poisoning; it is upon you that the innocent ground their hopes of acquittal, and the guilty their dread of conviction; and it is to you that the public also appeal, in order to find protection from the designs of the secret murderer. But if, after you have been engaged in some serious judicial inquiry of this kind, it should be found, through the test of a rigorous cross-examination, that you are deficient, not only in Professional knowledge, but in common prudence also, that, in fact, you are altogether unequal to the performance of those highly important duties which you may have, perhaps most rashly, undertaken, then, gentlemen, you will feel the bitterness of disappointment and of self-reproach, and will have to encounter all the sad results which are sure to flow from the possession of a counterfeit and ill-grounded reputation.

Let me, moreover, remark to you, that the events which I have just pictured are not by any means uncommon; for, in the course of a very limited experience, it has been my lot to witness the discomfiture of more than one Medical man, who had placed themselves in such an unfortunate predicament; and who were compelled to endure, as Dr. Gordon Smith says, the scrutiny and displeasure of the bench, the browbeating of the bar, the derision, the contempt, and the laughter of the audience, the discontent of their friends, the disgrace cast by them on their Profession, the exposure of the public Press, together with all the pernicious consequences which have followed to their reputation and fortune.

If, however, such considerations as these do not furnish you with a sufficiently strong inducement to become conversant with practical toxicology, let me urge you to study it on another account, namely, on account of the great public good which your services therein are capable of effecting; for, as you will soon perceive, there rests with you, and, I might say, almost with you alone, a means of suppressing one of the most fearful, as well as one of the most common of crimes; namely, that of secret poisoning. That this is a common crime is evidenced by the records of the public press, and by the experience of all who are actively engaged in medico-legal pursuits. If we turn to the reports of the Registrar-general, we may perceive that about 600 deaths from poison occur annually in this country; but, great as this number is, it does not, in my opinion, at all represent the mortality which actually results from this cause. I believe, indeed, and shall soon take an opportunity of showing, that by far the greater number of deaths from poison are attributed to other causes, and therefore elude all public inquiry. Nor am I singular in holding this opinion; for it is stated by Mr. Taylor, in his recent work on poisons, that he believes the practice of slow poisoning by arsenic to be more frequent in this country than is commonly supposed; and he adds, that it behoves practitioners to be exceedingly careful in their diagnosis, inasmuch as the usual characters of arsenical poisoning are completely masked.

Again, it has been remarked by a writer in a late Number of the *British and Foreign Medico Chirurgical Review*, that the present enormity and extent of this crime have never been equalled in any period of history.

In touching, therefore, on this most important subject, I do consider it to be my duty to allude, somewhat freely, to a few of the circumstances which appear to me to favour the development of this crime; for, by so doing, I may possibly enable you to expose its enormity, and, at the same time, help you to put a check upon its practice.

Among the circumstances to which I refer is—

1st. *The facility with which poison may always be obtained.*—This is a notorious fact, and it is also a serious one, for we may regard it as being at the very root of the evil to which I have been alluding. Indeed, it has been discussed and commented on again and again, not only by the Editors of our Medical Journals, but also by the writers of other and more powerful periodicals; but, for all this, the Legislature cannot be persuaded to impose any restrictions on the present system of free trade in such deadly drugs. It is not, however, in London, nor in our large metropolitan towns, that we have an opportunity of witnessing the full amount of danger which is incidental to this system of trade; but it is in the rural districts, among the poor, the ignorant, and the careless, that the peril is manifested to the greatest extent; for, in those districts, laudanum may be purchased by the gallon, and arsenic by the pound, without any inquiry being instituted as to the object of such purchases. In corroboration of this, I may mention, that, when I was at the trial of Sarah Scarborough, which took place at Cambridge during the Lent Assizes of 1848, I heard it given in evidence by one of the witnesses, a druggist of March, that he was accustomed to sell to the people of that town as much as two pints of laudanum weekly. He sold it, he said, in pennyworths, and he never asked [illegible]ing the purpose to which it was to be put, b[illegible] he knew that it was commonly taken for the p[illegible]pose of procuring sleep. He admitted, also, [illegible] there were other druggists in the town who sold much more of the drug than he did? I recollect, also, that, when I was at Wisbeach, on an inquest, about eighteen months since, I heard it stated by a clergyman of the district, that the habit of taking laudanum was just as common with the people of that place. In fact, it was remarked, just about that time, by the Editor of the *Lincoln Mercury*, that the practice of taking narcotics was increasing most fearfully in the counties of Cambridgeshire and Lincolnshire, and that old and young were equally its victims. "It may," said the Editor, "be safely averred, that every second customer who visits the druggist, purchases opium, laudanum, or some such drug;" and he went on to state, that, in the town of Wisbeach alone, there were upwards of 400 gallons of laudanum sold and swallowed every year—a quantity which amounts to eight gallons per week. Nor is this free trade in poisons carried on by the druggist alone; for, in many country places, grocers, drapers, and oilmen are the chief retailers of such substances, and, as I hardly need inform you, their *reckless* traffic therein has, and ever must give rise to very serious consequences. No later back than the year 1847, when one of these worthies (an oilman) was examined at a trial at Guildford, he admitted that laudanum and Godfrey's cordial were sold at several shops in that town in common with grocery, cheese, and drapery; and he remarked, with all the *naïveté* in the world, that he would not swear that they did not keep arsenic, prussic acid, and other deadly poisons, among their articles of grocery. A medical journalist, in commenting on the above fact, has added, that, not long since, a superintendent of police went, in disguise, to a general shop in a country village, and asked for twopennyworth of arsenic. It was immediately weighed out to him in the very scales in which coffee, tea, and other articles of food were usually served, and handed to him by an old woman who kept the shop. Upon his asking her whether she was not in the habit of marking "*Poison*" on substances of this kind, her answer was, "Lor' bless you, I can't write, to begin with; and then it would frighten people if 'poison' were written on it." This experiment was made in order to show the facility with which arsenic might be obtained, in quantities sufficiently large to destroy a hundred people. And, by way of offering a further proof of this fact, I may refer to the recent case of Mary Ann Cullen, who poisoned her three brothers, her mother, a woman, and her child—in all, six persons; and who, according to her own confession, procured the poison from a druggist of Wexford, to whom she applied for some drug to kill rats. He told her that he could not sell her less than six-pennyworth, so she purchased this quantity and took it home with her. Some time afterwards she paid the druggist (Mr. Croghan) another visit, and, according to her account, he looked very sharply at her, and asked her what she wanted.' She said, "the same complement for the rats." He then inquired if the last did good, and, on handing her another sixpenny packet, his observations were, "Stick to it, and it will banish all the *rats*."

Such a dangerous condition of things as this is, calls loudly for public consideration; and it must be corrected before we can expect to put a stop on the crime of secret poisoning. Already Mr. Farr, the Deputy-Registrar-General, has drawn attention to it; and, in commenting upon the crime to which it gives rise, he says, that it must be admitted, by all who have paid attention to the subject, that the system of pharmacy in England requires revision. The sale of prussic acid, opium, nux-vomica, oxalic acid, corrosive sublimate, and arsenic, to the public, may be either prohibited altogether, or permitted only by medical prescription. The master's certificate

may be required for sugar of lead, and those poisonous substances which are employed in the arts and manufactures. Nor is this an impracticable suggestion, for the French Government have for a long time past acted upon a similar principle. In the Royal Ordinance which was issued in the month of October, 1846, it is required, that the vendors of poisons shall be licensed by the Mayors of their respective communes, and that all purchases and sales of such substances, together with the names of the buyers and sellers, and full particulars concerning the purposes to which the poison is to be applied, shall be inscribed in a special register, and be indorsed by the Mayor or Commissary of Police.

Again: a pharmacian is not permitted to sell a poison, or to dispense it, without an order from a physician, a surgeon, an officer of health, or a veterinary practitioner; and it is required, moreover, that the pharmacian shall immediately register the order or prescription, then sign it, and finally attach his seal to it. It is also required, that certain poisonous substances, of which the pharmacian is furnished with a list, shall be kept apart from ordinary drugs, that they shall be secured by means of a lock, and be dispensed only by the chief himself. In fact, every effort is made by our continental neighbours, to suppress the unlawful use of poison, and so to protect the lives of the citizens of France, not only from criminal attempts, but also from the deplorable errors which are so likely to result from an unrestricted trade in such substances.

Other suggestions have also been made in the hope of effecting these desirable objects. Thus, it has been proposed to mix certain colouring, strong-smelling, and noxious tasting substances with the commoner poisons. M. Tizot recommends that vermillion, creosote, and colocynth should be mixed with them. The Editor of the *Medical Gazette* has suggested the use of prussiate of potash, and sulphate of iron or copper, which, upon the addition of water, will give rise to the production of a blue or purple compound. The Council of Salubrity of Paris has advised the employment of Prussian blue, and nux-vomica; the former of which serves to colour the poison, and the latter to render it exceedingly bitter. Morever, the Professors of the Ecole Nationale Veterinaire, of Alfort, and of the Ecole de Pharmacie, have proposed that all arsenical preparations which are used, either for the treatment of diseases in cattle, or for the destruction of vermin, or for the preparation of skins, shall be prepared and coloured in accordance with certain formulæ which they have issued, and these propositions have been approved of by the Minister for Agriculture and Commerce. So that there is in France, at the present time, a three-fold restriction concerning the public sale and use of poisons, namely, a restriction which is founded on a good system of registration; 2ndly. A restriction which prohibits the use of arsenic for agricultural purposes; and 3rdly. A restriction as regards the employment of poison for the destruction of vermin, the preparation of skins, and the cure of cattle. In these respects, therefore, the legislators of France are very much in advance of our lawgivers; and they have set an example which our Government would do well to follow.

Another source of great mischief to the public is, the employment of improper and unwholesome articles of food, such as confectionery, sweetmeats, bon-bons, &c., which are coloured by means of poisonous pigments; thus arsenite of copper, or Scheele's green, is commonly employed to impart a rich green tint to these substances; orpiment, or chromate of lead, is used to give them a yellow colour, and vermillion to produce a bright red tint. Many of you can, I dare say, remember the disaster which happened last summer at a public dinner in Nottingham, where several gentlemen were poisoned in consequence of their partaking of a blanc-mange, the top of which was ornamented with a green device in imitation of a cucumber. This device had, unfortunately, been coloured green by means of arsenite of copper. A case of a like nature is recorded by Mr. Hetley, the visiting surgeon of the St. Marylebone Infirmary. He was called to the assistance of three adults and eight children, who were poisoned by two-penny-worth of confectionery which had been coloured by means of Scheele's green. And Dr. Guy, in his Toxicological Report for 1848, states that an accident of the same character, though on a larger scale, had also come within his experience. An ornamental green basket, after having been used at an evening party, was given to one of the attendants, who distributed the fragments among the inmates of a large workshop. Severe vomiting and purging were the result. On inquiry at several confectioners Dr. Guy found that arsenite of copper is commonly used to give a green colour to confectionery; and an analysis of a fragment of the basket confirmed this statement.

Again, I have frequently had to investigate cases in which individuals have been poisoned through the use of bad food, such as putrid sausages, cheese, fish, and mouldy flour, all of which substances, notwithstanding that they are known to be unwholesome, are permitted to be sold, and to be distributed without any restriction whatever, among the helpless poor of this country. Surely we ought to have some legislative enactment, in order to put a stop to such dangerous practices.

I shall, Gentlemen, in my next lecture, proceed further with the consideration of this important subject.

LECTURES
ON
OPERATIVE OPHTHALMIC SURGERY.

DELIVERED AT THE CENTRAL LONDON OPHTHALMIC HOSPITAL.

By H. HAYNES WALTON, Esq., F.R.C.S.,
Surgeon to the Hospital, and to the St. Pancras Royal General Dispensary.

LECTURE I.

Object and nature of the course—Qualifications for an operator—Classification of cataract—Rejection of the term spurious cataract—Pathological changes occurring in cataract—Advantage of dilating the pupil in examining the eye—Cause of cataract.

GENTLEMEN,—The subjects I have chosen to bring before you, belong to the operative department of ophthalmic practice, and will embrace the various operations on the eye and its appendages, that are demanded from disease, accident, or malformation.

Ophthalmic surgery has been cultivated from the earliest ages of medicine, and during its progressive development, has numbered among its cultivators some of the greatest ornaments of our Profession, men whose originally powerful minds have been enlarged and heightened by their brilliant attainments.

It would not, however, be consistent with the nature of this short course of lectures, which are intended to be strictly practical, to introduce, however interesting it might be, any historical matter. For this reason, when treating of individual operations, I must avoid mentioning the period of their introduction into practice, and the improvements effected in them from time to time. Should you desire information on any of these points, you must seek it in the various systematic treatises and monographs on ophthalmic subjects that have appeared in England and in other countries.

Little advantage would be expected to accrue, were I merely to give the details of the various operations, without entering into a consideration, or description, of those changes and alterations from normal conditions which make these operations necessary. I shall be careful, however, to keep within proper bounds, and endeavour to be comprehensive and perspicuous, without being too lengthy and uselessly minute. I shall occasionally allude both to the writings and practice of modern authorities, to confirm what I advance to you. Whenever my own experience does not enable me to guide you, I shall gladly adduce that of others, and recommend whatever course I myself should follow.

In connexion with the several subjects, I shall illustrate from the patients so far as the resources of the Hospital will permit, and exhibit whatever drawings I possess, all of which have been taken from my own patients, by Dr. Westmacott, of King's College, whose accuracy and aptness in delineation are well known. The aid of diagrams will be resorted to when they are likely to facilitate description.

It may not be unprofitable to refer briefly to the performance of ophthalmic operations. Comparatively few surgeons undertake them; the cause is easily assigned. Hitherto not many could command the opportunities that are indispensable to produce proficiency. Yet the rapid extension of Ophthalmic Institutions throughout the kingdom, and the daily increasing zeal with which the Medical students and the young Medical Practitioners embrace ophthalmic subjects, induce me to believe that a few years will witness a great change in this respect.

Putting aside those whose total want of manual tact, or great nervousness, disqualifies for any manipulations requiring delicacy, I believe that, with proper training, any surgeon may become a successful operator. Of course there has been, and ever will be, various degrees of excellence in operators, owing to the differences of natural aptitude, and of that derived from diligent study and practice.

All of our best operators in ophthalmic and in general surgery, have devoted much attention and labour to that for which they have been subsequently distinguished. It would, indeed, be singular, were it otherwise. Can it be expected that any one shall do by chance that which demands for its perfection labour and pains? Without due preparation, you must not expect that success will attend your operations, and especially such as involve the globe of the eye. I have seen some sad failures in the hands of those who fancied that nothing however new to them was too difficult to be attempted.

Many are deterred from operating by the much bandied absurdity, that a very large number of eyes must be lost, or rather destroyed, in preliminary attempts. I will show you how to qualify yourselves and falsify that assertion.

Remember that you ought thoroughly to understand the object you desire to accomplish, to contemplate it in all its bearings, and to obtain a certain amount of practice to enable you to execute with accuracy and effect. The head and the fingers must alike be educated. Fortunately, living man need not be the subject of your first essays. The eye of a recently dead subject, forms an excellent substitute. In practising on it, avoid slovenliness; use all the care and precision that should be exercised in life; acquaint yourselves with the nature of the structures you have to deal with, and the amount of resistance they offer to instruments.

You ought frequently to witness the operations of others, and notice the accidents or emergencies that arise, and the best method of meeting, overcoming, or avoiding them. You may often learn much from seeing the performance of a bad operator.

There are yet other conditions that should be complied with. Familiarise your fingers with the living eye, and its appendages, by the various little acts, I can scarcely call them operations, that are required of the Ophthalmic Surgeon in his ordinary daily practice. You thereby accustom yourself to the motions of the globe, and learn how to restrain, or direct them when necessary, to control the resistance offered by the lids, and, not the least important, you are habituated to the restlessness and irritability of patients.

For first operations the young Surgeon should choose those cases that are least likely to offer difficulties.

To proceed satisfactorily with the various peculiarities you will meet with, you must possess tact and self-control, and these can scarcely be acquired without frequent practice. He who operates but seldom, can never be very confident, for, before his next operation arrives, he has lost the experience and advantage of the last.

In no other practical department of surgery is bad operating sooner detected than in the ophthalmic, whether in immediate performance, or in results. Carelessness can never be indulged in by those most practised, without its heavy penalty.

The stand you take as Ophthalmic Surgeons will greatly depend on the success of your operations.

They are the test by which you will be judged Should you operate badly, it matters not how your name may be bolstered up,—in spite of all, you will take but a low position. On the contrary, if your cases turn out well, notwithstanding any difficulties you may have, at first, to surmount, in due time you will obtain the deserved confidence of the Profession and the public.

One of the best operators we have ever had in this Kingdom was, in the first instance, so unsuccessful in his attempts at extracting the cataract, that he was restrained from operating at the Institution to which he was attached for two years, and during that time he was literally confined to the minor operations only. He had the good sense to submit with patience to this decree, and the issue of his patience was, that he became one of our very best operators for cataract. This valuable man was prematurely cut off; but he has left behind him for our example, his patience under temporary eclipse, his unwearied perseverance in overcoming his natural impediments, and his modesty and quiet dignity when great and deserved success crowned his labours and his zeal. What occurred in his case may occur to each of you. To deserve success is much more meritorious than to achieve it. The desert depends on character, energy, and perseverance. The success sometimes depends on adventitious circumstances. Yet we find, in the majority of instances, that desert and success go together; that the latter is, as it were, the natural consequence of the former.

The first subject that I shall enter on, is that of cataract. When you become yourselves experienced, you will agree with me in rejecting the usual division of this disease into the true and spurious, and in confining the word cataract to those changes in the crystalline lens and its capsule, whereby their transparency is destroyed, and in admitting only two sorts, lenticular and capsular. When both of these exist at once, the term capsulo-lenticular is used.

By spurious cataract is meant, the various deposits (for the most part the result o inflammatory action of some portion of the eye), that are seen on the anterior surface of the capsule of the lens. I have invariably observed, that ophthalmic students are much puzzled and confused by these so-called spurious cataracts; for although the appellation "spurious" is used, yet, in combination with cataract, it conveys a wrong idea, besides mystifying and obscuring that which may be rendered easy and plain. Is it not more intelligible, and even more learned, to say (for the words at once convey an idea), that there exists a deposit of lymph on the capsule of the lens, with more or less adhesion of the iris, as the case may be, than to talk of flocculent, trabecular, clotted, or fibrinous cataract, these names being given according to the form of the deposited mass, and the condition of the pupil?

These are also described among the spurious: sanguineous, purulent, and pigmentous cataracts, and these are divided into species. I would advise you not to pay any attention to these names; the practical surgeon neither requires nor uses them; but acquaint yourself with the various morbid conditions of the eye, and you will not have any difficulty, when necessary, in describing them in terms that can be readily understood by any well-educated surgeon. These changes to which I merely alluded are so connected with general diseases of the eye, that a full consideration of them is beyond the scope of my lectures. It is only when they form impediments to operations, or in themselves so far impede and obstruct vision as to demand operation, that I shall include them in my observations.

Although cataract may occur at any period of life, there being no age exempt, from the foetus in utero to the utmost limit of man's existence, it is most commonly seen, and appears more properly to belong, to infancy and advancing years. Besides loss of transparency, the lens and its capsule while opaque exhibit changes in size and alterations in structure. The former may become smaller or larger than in health, softer, or even fluid. The latter may lose all its delicacy of structure, becoming tough and greatly thickened, and, I believe, with that alteration acquires the property of absorbing Associate, then, with cataract many pathological effects.

Inasmuch as these deviations from normal conditions can be satisfactorily recognized, and as your treatment must be adapted to the individuality of the case, it is your duty to learn how to distinguish each one from the other.

As a general rule, whenever you perceive a discoloration posterior to the iris, avail yourself of the advantage to be derived from a dilated pupil. Much doubt of the nature of a cataract may thereby be dissipated. Again, the use of belladonna, or its more elegant preparation atrophine, may often render great assistance to diagnosis in cases of imperfect vision that do not show any opacity in the ordinary state of the pupil; for, as I shall have to show more in detail when I proceed, the crystalline lens may be opaque in its circumference, and not in its centre. Then there is the value of negative evidence in observing a clear pupil.

The question must have suggested itself to you what is the cause of cataract?—and, naturally enough, the same interrogatory is often put by patients. I cannot, in a word, supply you with an answer; the subject requires a little consideration.

The commonest form of cataract, the lenticular, occurring at the middle period of life and in the aged, cannot be accounted for. Pathology and physiology afford us no elucidation of the fact. All the theories that have been advanced are untenable. The same, too, must be said of the majority of lenticular cataracts that occur in early life.

It must be remarked, however, that we meet with cataract less rarely in an uncomplicated state, existing as an affection by itself, than co existing with unhealthiness in other parts of the eye; and often this combination cannot be detected before the cataract is removed; yet we are not thereby enlightened as to its cause. Sometimes we have unequivocal proof of the capsular as well as the lenticular form, depending on inflammatory action, originally invading other structures of the eye, either in an active form, or slowly and insidiously, and ultimately involving the lens and capsule, and producing opacity. Theoretically, one is inclined always to attribute capsular cataract to inflammation, from the change the capsule undergoes, which is analogous to that in other parts of the body usually considered to have such an origin.

Traumatic cataract is generally accompanied with more or less inflammation of some of the other textures of the eye, but not necessarily so, for aught that we can appreciate. It may follow slight concussion of the eye, without any apparent lesion.

Mr. Lawrence says, that "soft capsulo-lenticular cataracts often form in consequence of congestion in the organ." Dr. Mackenzie writes to the same effect: "Inflammation is, in some cases, the proximate cause, not merely of true, but even of spurious cataracts." Yet, as the former author observes, "we cannot generalise the observation, and say, that inflammation is invariably the cause of cataract."

In the Number of the *Medical Times* for February 26, 1848, I published a case of capsulo-lenticular cataract, on which I operated, that had a well-marked inflammatory origin.

I have seen a few instances, in young persons, of what I suppose I may call lentitis. With the existence of uneasiness in the eye, the lens became opaque in a few days, the capsule remaining unimpaired.

It is astonishing how quickly bodies of such low organization as the lens and capsule, can become opaque. A lad, who received a blow in the eye with a stick, presented himself twelve hours after the accident; capsulo-lenticular cataract was formed. Ordinarily, some days elapse before opacity is perfected.

Circumstances usually recounted as the remote or predisposing causes, are so vague, I may almost say absurd, as to forbid any notice of them, except that of hereditary tendency; and here the ancestral influence may be very palpable, but, fortunately, is very rare. I shall conclude my lecture with one of the cases that have come under my own observation. The patient was aged 23, with lenticular cataract in both eyes. Her three sisters, maternal aunt and uncle, and maternal grandfather, had been similarly affected.

ORIGINAL CONTRIBUTIONS.

REMARKS ON VENEREAL DISEASE.

By F. C. SKEY, Esq., F.R.S.

In my last paper, I expressed my opinion on the nature of the venereal disease as regards its possible, and indeed, its frequent, not to say common, mode of propagation. I gave a slight sketch of the evidence on which my opinion was confirmed. It was founded on observation alone. I did not affect an isolated singularity, but I did claim to myself the merit, *quantum valeat*, of daring public opinion by the advocacy of a doctrine I believe to be true. It appears to me, that, supposing these opinions to be correct, their adoption must compel some modification of the treatment employed by the majority of the Profession for the cure of primary venereal sores; for, if I can succeed in simplifying the pathology, the hope that I may influence their treatment also, would not be an unreasonable one. With this view, I proceed to strengthen and entrench my position by additional evidence, pointing to the important fact, that venereal disease is capable of propagation by the intercourse of two persons, neither of whom, singly, shall be the subject of disease in any form. I am told, that I have adopted my views on "insufficient evidence." I dare say I have,—insufficient enough to influence the minds of those who have reached the final goal of their belief. "Really, Sir," says one friend, himself an Author on this subject, "we did not expect such extreme doctrines to have emanated from St. Bartholomew's Hospital." Now, I have a great respect for the traditionary excellence of St. Bartholomew's Hospital, and for its medical staff, past and present, Pott and Abernethy included; but I have a much higher respect for truth, and I do not know that I have not a remote pleasure, even extending to the possession of a small spice of malice, in the exposure of error.

In my former paper, I quoted authority in favour of the doctrine I endeavoured to promulgate. I did not pretend to quote the *opinions* of these Authors, but I merely referred to such passages in their writings as appear to me to point to the one and only deduction, viz., the frequent spontaneous origin of venereal disease; but I prefer to this form of evidence, however strong, that of my own senses. I prefer that of experience and observation. I would say to every man not indisposed by prejudice, and whose opinions on the subject of venereal disease are not stereotyped on his mind as final, examine and observe, scrutinize the circle of your own practice, public and private, but especially the latter. In addition to the authorities I last quoted, for in obedience to the world I ranged them in advance, placing *reason* at a respectable distance in the rear,—I shall now call the name of John Hunter into the witness-box, and we will see, on cross-examination, what evidence we can extract from him. In the first place, I find no evidence in his works in *direct opposition* to the doctrine of spontaneous origin, plenty to infer his adoption of the general views of the Profession of his time, viz., that it is a disease communicable from one person to another. This, however, is undisputed. In his chapter on the venereal poison, I find the following:—

"In women the inflammation *is frequently* very slight, and often there is not *the least sign* of it, for they have been known to affect men, though they themselves have had no symptoms of inflammation, or *of disease in any form*. Therefore, the inflammation and suppuration, when present," (in the male I presume,) "are only attendants on the peculiar mode of action, the degree in which they take place *depending more on the nature of the constitution than on that of the poison*." (The italics are my own.) Mr. Hunter here declares his belief

that a woman, who has *no disease in any form*, can generate disease, in the nature of "inflammation and suppuration."

If this be not gonorrhœa, what is it? What is a gonorrhœa but inflammation and suppuration? Who can distinguish between the inflammation and suppuration, the result of intercourse with a woman who has "no disease in any form," and the inflammation and suppuration got from an unknown source, whether clean or unclean, and to which we unhesitatingly apply the term gonorrhœa, *because* we infer it to be the product of another gonorrhœa? Ardor urinæ, chordee, inguinal suppuration, orchitis, are as frequent attendants on one as on the other. They run the same course, and are amenable to the same treatment. In short, they are one and the same disease.

That the constitution exercises an important influence in increasing and lessening the intensity of this disease, may be inferred from the fact, that its activity is diminished as age advances. It is the disease of early, not of confirmed, and still less of advanced, manhood. The later its appearance in life, the more amenable is it to treatment.

On the chapter on Gonorrhœa, Mr. Hunter says:—"Mr. and Mrs. —— have been married twenty years. She has for many years been troubled with fluor albus. When he has connexion with her at such times, it has generally, though not always, produced an excoriation of the glands and prepuce, and a considerable discharge from the urethra, attended with slight pain. These symptoms commonly take a considerable time before they go off, whether treated as a gonorrhœa, or as a weakness. Is this a new poison? and does it go no further because the connexion takes place between two? What would be the consequence, if she were to have connexion with other men, and these with other women?"

To these questions I will presume to give an answer. If the above lady had had connexion with a young and healthy person, he might have carried away as virulent a gonorrhœa as ever required medical treatment; and had the experiment been conducted with common ingenuity, he might have infected the mistresses of the whole camp, pioneers and all.

The very question raised by Mr. Hunter infers the leaning of his own mind towards the belief that gonorrhœa may be engendered from leucorrhœa, itself the product of simple irritation.

The evidence applied to the spontaneous origin of venereal sores, at least from one sore, is equally conclusive; and if one, why not all. The sore to which I allude is, of all venereal sores, the most common, and it holds a singular relationship to gonorrhœa, arising probably from the same poison. I am in the habit of designating it as "the common sore."

It is named by Mr. Evans, the common venerola—a name adopted by Mr. Welbank, than whom I know no higher authority on venereal disease at the present day. It commences at an average of three days after connexion, in the form of a pustule, which matures and bursts. It then becomes a sore, and progresses in size till it reaches that of the little finger nail, or less. Sometimes, however, it increases, to that of the thumb nail. This ulcerative stage occupies from two to four weeks. The physical characters of this common sore, at this stage, depend on its situation. It may form on the glans, on the fossa, on the prepuce, or on the body of the penis. It is rare that it cannot be distinguished by ordinary observation. It is characterised by *an elevated ridge surrounding it*, within which the sore appears to be depressed below the general level. On the body of the penis, that is to say, when seated in common integument, the ridge is strongly marked, and constitutes a very palpable feature, and it then bears a remarkable resemblance to the ulcerated patches of Peyer's glands in fever. In form the sore may be round, but is more commonly irregular. As it advances, granulations form on its base, which, when matured, rise up to a higher level than the surrounding skin. The walls are absorbed, the granulations shrink, and the cicatrising process terminates the affair. This is the course of a well marked common venereal sore; but neither the walls nor the elevated granulations are the essential, though the frequent, and even the general concomitants. This is the common sore; so common, that Mr. Evans declares it to prevail in nine out of every ten examples of the disease.

I have spoken of its probable identity with the poison of gonorrhœa. The grounds of that opinion are these:—1st. That it runs its course in about the same term; 2nd. That it is frequently observed in small clusters, around the prepuce, in cases of protracted gonorrhœa; 3rd. That, like gonorrhœa, it is often of spontaneous origin; and 4th. That when time is allowed it to progress, unmolested by interference, it reaches its curative stage without requiring the assistance of any other surgeon than nature.

It has another very important feature, and to which, out of many thousand examples that have come within the range of my observation, and the large proportion of which have been under my treatment, I have never known an exception,—viz., *that it never produces a constitutional symptom of any kind, neither sore throat, nor eruption, nor local pain.*

I conceive that I should do no small service could I establish the truth of this most important fact,—viz., that the common sore, prevailing in nine out of ten cases, or say five out of six, runs its own career, through ulcerative, granular, and cicatrising stages, in six weeks, in a regular and steady progression; that its progress, except the very last stage, is accelerated by no treatment, local or constitutional; and that it leaves no trace or mark on the constitution to raise a passing regret that mercury had not been employed.

I will venture to affirm, of my own knowledge of his sore, with which I have made acquaintance for a great many years, and have seen some thousands of examples, that out of the whole range of circle of disease, there is none more abused, and more discreditably treated. The treatment really required is purely negative. By an occasional pill of compound rhubarb, and spermaceti ointment locally, all its medical wants are fully supplied; anything beyond this, is obtrusive and injurious. For many years I treated it with the following antiphlogistic agent, and, among the poorer classes of the world, I do not know a better, *if given in sufficiently large doses!*

℞. Micæ panis, gr. v.; aquæ puræ qs.; M. ft. pil.; omni nocte sumenda.

Most practitioners, who don't know the characters I have above sketched of this sore, treat it with mercury. It is often called the true Hunterian chancre, although totally destitute of hardness every stage, if let alone; but, let its progress be disturbed by the hand of science; torture it by remedies; stimulate it by unguents; irritate it by escharotics; then it will assume a new and important feature, viz, its base will become hard. I have elsewhere drawn a distinction between the hardness of thickening, and the hardness of induration; but, I am not so absurd as to imagine the Profession to read books on venereal disease, I will venture briefly to repeat my observations. The terms are arbitrarily employed to express different degrees of the same quality. Many forms of ulcer, as they become chronic, become also hard, and the common venereal sore is one of them; but the hardness is moderate, not extreme. Moreover, it is confined to the parts immediately contiguous to the sore, and not to the circumjacent tissue. The true syphilitic chancre appears as though set in a mould, or base, of cartilaginous induration. But there remains a further distinction, yet more clear and characteristic of the two diseases, viz., that the thickening of the chronic form of common sore is of late growth in the progress of the sore, whatever its locality; whereas the induration of true syphilis is coeval with the sore, and even precedes it. To the common sore it is incidental, while it constitutes the main feature of syphilis. If the observance of the characters of the sore be backed by its history, its nature will be generally determined without difficulty. Syphilitic disease rarely appears within ten days after intercourse, the common sore in three or four. Syphilitic disease is remarkably destitute of pain in all its stages. The nucleus of the disease resides in the induration, not in the sore, which is incidental to the induration. Induration alone, without a sore, will cover the skin with eruption.

The greatest evil attendant on the thickening of the common sore, consists in its mechanical influence in arresting the healing process. There is really no greater necessity nor excuse for mercury, than though thickening were absent. But the disease is greatly protracted, and may remain stationary for weeks, or even months. If the sore be pared round the edges with scissors, or destroyed with caustic potash, it will heal.

There is only one stage of this common sore that justifies intervention, by the application of bluestone to the granulations, where they rise to the level of the edge, or above the surrounding surface, supposing the raised margin to be absent.

Supposing the variety of venereal sores to depend on the difference in the poison producing them, that would prove a highly interesting subject of inquiry, which would establish the existence of the distinct forms consequent on each other on the same person; *i. e.*, the poison of the common, according to general belief, should invariable produce the common sore; phagedenic poison, a phagedenic sore; and syphilitic poison, the syphilitic sore. But I cannot call to my recollection any single instance in which I have seen two different forms of sore on the same individual. I have seen a succession of common sores, and a succession of phagedenic sores; but I have not, to the best of my recollection, ever treated a common sore in the person of a patient whom I have known to have had phagedenic disease previously, or *vice versa*.

If this subject were thoroughly investigated, and if the result proved that every constitution had its own sore, and that the occasional existence of two forms of sore at different times in the same individual, formed but an exception to the rule, should we not refer the nature of the sore to the constitution of its possessor, and not to the specific poison of the woman supposed to have engendered it. Yet the doctrine is not an improbable or an unreasonable one. I believe, that of three men having intercourse with the same woman, one shall contract the common sore, a second a phagedenic sore, and the third a gonorrhœa. Evidence to this effect is given in Mr. Evans's work, and I have no doubt of its truth.

Grosvenor-street, June 22.

MEDICAL SCHOOLS AND UNIVERSITY TOWNS OF GERMANY.

By Dr. BUSHNAN.

Before continuing my account of the Medical Schools and University Towns of Germany,—an account which the disturbed state of that country and the many collegiate changes that riot and rebellion, with their attending ruin, have brought with them, have sadly interrupted—I propose, in the present and succeeding numbers of the *Medical Times*, to say a few words upon the Profession and system of medical education in Prussia,—a system which, with some very slight modification, is adopted in the minor states of the Germanic Confederation as well as in Saxony and the Saxon Duchies, Wirtemburg, Hanover, Electoral and Grand-ducal Hesse and Baden. Bavaria and Austria have their own systems. My task is not one of great difficulty, since the Report of Hoefer to the French Minister of Public Instruction, upon the same subject, will, in great measure, form the basis of the present account.

The system of government, then, of the Medical Profession in Prussia, and in the states I have named, is purely hierarchal. As its seems to me, it can most appropriately be described at this time, and in these days of medical reform and agitation; when in England the hands of the great mass of the Profession appear raised to knock down that which they cannot clutch, to level institutions to which they do not belong, even when by complying with established rules, they may be received into

their bosoms, and, when there, lend their help and aid to purify and improve them, and adapt them to the exigencies of modern times and the general spread of knowledge. But the habit of the present day is to raise up new altars—too often, to an unknown God —and to form new corporations, new associations, among which men would worship, but in which they themselves would be one of the worshipped; but of the form and mode of which none can agree, each having his own undefined and vague idea. And from the mass of opinions that have been offered, and the hecatombs of advice that have been sacrificed, we can only gather that each man wishes to be first, to have his slice of the cake, and his own particular finger in the pie. As it seems to me, the existing Institutions, if properly remodelled and new chartered would be amply sufficient for every necessity. It is unreasonable to say there shall be no grades in the Profession, for there they must exist, as in every other department of life; but it is quite fair, and very necessary, that as few impediments as possible should be placed in the way of men rising in the scale, and arriving at the highest position. But so long—let the course of education and the nature of examination be what they may—so long as the public think Dr. A a wiser man than Dr. B, and therefore call him to consultation; or fancies Mr. C is cleverer than Mr. D, so long must grades exist, if not of rank, at least of reputation. In professing to give a survey of the Prussian system of medical government, I do so, as much with the object of explaining their mode of arranging these matters, in a country which is altogether of a military character, as with the avowed intention of selecting those points for especial consideration which I humbly conceive might be transferred with advantage to our own Colleges, and infused generally into the leaven of our medical diathesis,—if such a term be not uncongenial to British ears. I am very far from being a blind admirer of the German system; indeed I hold that, in the present state of our knowledge, what are named *systems* are merely rude attempts at the ideal of perfection in the mind of man; and, again, in some points of view, they are often miserable abortions. There is this, however, to observe, that the whole Medical Profession in Germany is united in one body; one system connects Professors, Teachers, and Practitioners, different as are their walks and grades, into one harmonious and compact union, or rather unity of purpose — even from the highest Councillor of the State, who presides over the meetings, or assemblage of the medical authorities, to the humblest attendant duly instructed by the education he has gone through to perform adequately the offices of his station—not an unimportant one—to watch with assiduity and care the couch of the sick.

How widely different is the system followed in the British Isle? What an incongruous mass of interests embroiled in ceaseless quarrels and jugglings with each other! The College of Physicians against the Apothecaries' Company; the Apothecaries' Company against the College of Physicians. The College of Surgeons aloof from both, yet indirectly obedient to the call of the one or the other, as interest may direct. One system of education north of the Tweed, another south, and a third in the sister isle; and all enacted and enforced by penal statutes. No wonder quackery has taken so strong a hold in the British Isles.

Yet, with all these differences, we have still some noble institutions, and some noble "Fellows" presiding over their destinies.

It is true, however, that there are various deficiencies to be supplied, imperfections to be amended, superfluities of the olden time to be pruned, and modifications which the expanded and hourly expanding nature of the great and *one* science of the healing art imperiously demand to be introduced, in order to satisfy the more enlarged demands of a generally more enlightened professional body, and adapt it to the spirit and genius of the times.

There is one circumstance in German medical polity to which I wish particularly to call attention. Whatever may be the kinds of state doctors, civil doctors, military doctors, surgeons, and other practitioners, invariably in Germany the preparation and sale of medicines is a distinctly separated and isolated department of the Profession. I say distinct, because there is a class of men who devote themselves specially to that duty, trade, or profession as it chances to be termed; and *isolated*, I further add, because the persons so engaged are restricted and bound by heavy penalties solely to that pursuit, and never are permitted to interfere with practice, be it medical, surgical, or obstetric. In this simple fact I have expressed one of the grand features of the difference between British practice and the usage followed on the Continent; and if I do not apprehend erroneously, it is the source of a great part of the evil in our country—the canker-worm of our profession. Through the practice of selling drugs by those who give advice, the public has been insensibly driven to a want of confidence in those to whom they naturally look up in the hour of trouble; and thus doubting their honesty, they are urged to seek refuge in the impudent assurances of the nostrum-monger. (a)

As, then, I have not yet given up hopes that our medical corporation statutes may yet be re modelled, it will not be time misspent to take a summary view of a system of medical organisation, which, whatever may be its faults, has, at least, the merit of a unity of purpose which may not inappropriately be held as the nucleus of an amended and more liberal organisation of ourselves. With the *aperçu general* which Dr. Hoefer presents in his Report, I think every member of the Medical Profession will feel desirous to be acquainted, since it enunciates a complete system of medical organization which has been found to work well in a country so large and populous as Germany, and among those to whom we ourselves are indebted for some of the most valuable information and knowledge we possess.

In concluding this, my first or introductory communication upon the subject, I may observe that I shall first describe an official class of medical men, denominated public medical functionaries. These are totally distinct from all other in their duties. France offers nothing similar to them, and, among us, their only type is to be found in that nondescript anomaly the Board of Health.

I shall next describe the system of study and medical instruction, and the conditions under which degrees are granted. The different grades of practitioners, civil as well as military, will next engage my attention.

With the exception of the Bavarian, Prussia stands pre-eminent as a model for all the secondary states of the Germanic confederation. Accordingly, an account of the medical organization of that kingdom and of Bavaria is sufficient to convey a correct and full impression of the *status* of the Profession in Germany. Such differences or peculiarities as prevail in the other States of the Confederation, I need only briefly notice in order to complete the sketch. I may add, that in Germany, as elsewhere, men are dissatisfied with what they possess, and are unable to agree as to what they require.

(a) I remember being called in consultation to a case of that very rare disease, general emphysema after fever. "All medicine must be discontinued," I said, "and reliance entirely placed upon wine." "That is quite impossible," replied the surgeon in general attendance; "I am only paid by my medicines, and I cannot come several miles without prescribing three eighteenpenny draughts, a three-and-sixpenny mixture, and a powder daily." Every physician in consulting practice has met with similar occurrences.

REMARKS ON AN OCULAR SPECTRUM, INDICATING A SLIGHT OBLIQUITY IN THE LENS WITH RESPECT TO THE AXIS OF THE EYEBALL.

By J. D. MACDONALD, Esq., Member of the Royal College of Surgeons.

It is well known, that when a blackened card, with a small perforation, is brought close to the eye, the aperture will appear very much magnified; and, also, that whatever be its figure, a circular form will be perceived. This is, of course, easily explained when we consider the great divergence of the rays passing through the aperture in the card, and the insufficient powers of the eye to affect their concentration upon the retina, so that a shadow of the iris falls upon it, the pupil modelling (so to speak) the mass of rays in their course, and thus causing them to form a circular spectrum of considerable size. The writer, however, is not aware that any physiologist has observed the outer, or temporal border of such a spectrum to be somewhat defective, or paired off, while at the same time it is much brighter and better defined than the inner. The appearance noticed is made very striking when a series of perforations are employed as represented by the dots . . . . In this case, whichever eye may be used, the bright external margin of each circle will be clearly seen to overlap (as it were) the weak internal one of that which lies next to it, and the whole resembles much, in effect, a string of pearls. By looking through the perforations alternately with the right and left eye, the overlapping of the circles will be also perceived to change from right to left.

In explanation of this phenomenon, it occurred to the writer that the crystalline lens must hold a slightly oblique position, with reference to the axis of the eye-globe, or the plane of the iris; for, such a supposition, the whole matter is very easily accounted for.

If the rays of light from a candle be collected by means of a common lens, and thrown upon a screen before their complete convergence, as long as the planes of the lens and screen are parallel, and both perpendicular to the central rays, a circular spectrum results equally bright all round its margin; but, if the position of the lens be in the smallest degree oblique, that part of the spectrum formed by the light passing through the border of the lens most distant from the screen will, in consequence of the great convergence of the rays, be rendered more brilliant than the rest, and also more contracted or pared off. In short, the entire effect is exactly similar to that noticed above, as formed in the eye itself; and like that case also, the beauty of the illustration now under consideration is much enhanced, by employing a row of luminaries placed closed together, when the bright border of each circle will be found to overlap or obliterate the weak one of that which lies next it.

That the position that the writer has assumed is correct, is further indicated by the symmetry of the effect as occurring in both eyes, and by the anatomical fact, that the ciliary processes on the inner side of the lens are somewhat shorter than those on the outer, which arrangement seems to be intended to bring the lens more directly in front of the spot of Sømmering, which end must also be partly answered by the oblique position of the lens alluded to; for it is plain, that as (by some mental operation, but little understood by Physiologists) the images of objects formed on the retina in a certain position are represented to the mind as if reversed, it follows that the bright side of the circles painted on the nerve must be situated towards its inner side, an opposite condition to the appearance observed, and which is produced by the inner border of the lens lying more distant from the retina, or nearer to the iris than the outer; such an arrangement having the effect of throwing of the whole mass of rays a little inward and also effecting their concentration towards the inner side first, which may be required in certain positions of the eye-ball. It is probable that the ciliary muscle, so beautifully described by Mr. Bowman, has a special operation in altering the plane of the lens, causing obliquity in different directions, as well as the other functions ascribable to it. (a) There is one more supposition which may be advanced to account for the phenomenon above described, viz.,—that the substance of the lens is of

(a) Such as altering the distance between the retina and lens, drawing upon the anterior wall of the capsule, &c., so as to adapt the eye to vision at different distances by combining the effects of focusing and varying the convening force of the crystaline humour.

greater density at its inner than at its outer part whereby it brings the rays passing through the former to a focus somewhat sooner than those transmitted by the latter; but this condition would obviously render the lens defective in its operation and is, therefore, not likely to exist.

ON SCARLATINA.

By J. W. TRIPE, M.D., M.R.C.S., and L.A.C., London.

(Continued from Vol. XIX., page 672.)

MARCH.

The mean temperature of the air for these months of March was 42°·8; so that if the air had been saturated with moisture it would have contained 3·39 grains of aqueous vapour in a cubic foot; but as the mean dew-point temperature was 5°·6 below the temperature of the air, the average number of grains may be calculated at 2·81 in each cubic foot. The mean humidity was above ·853 four times, and below it five times; the four former presenting a plus of comparative mortality thrice and a minus once; the five latter a plus of mortality twice and a minus thrice. The mean comparative mortality for these months of March, in which the atmosphere contained an excess of moisture was 99; whilst for those months in which the humidity was minus ·853. the mortality was only 83. This forms a remarkable exception to the otherwise invariable rule, as will be shown hereafter; viz., that a plus of moisture is ordinarily accompanied by a minus of mortality. We can, however, draw no other conclusion than that a plus of humidity appears in March to induce an increase in the mortality from scarlatina; they were certainly coincident.

APRIL.

Although the atmosphere was not so highly saturated with moisture in this as in the last month, yet the actual quantity contained in it, at Greenwich, was greater than in March. Thus, the mean temperature of the air was 47°.2, which, if saturated, would have contained 3·90 grains of aqueous vapour in a cubic foot; but, as the mean dew-point was 41°·1, being 6°·1 below the mean temperature of the air, the quantity actually contained was only 3·14 grains. Assuming, then, that the mean humidity of the atmosphere for April is ·809, we find it to be in excess in four, and minus in five months: in the four former the comparative mortality was above the average twice, and below it twice; in the five latter the mortality was plus four times, and minus once. The mean comparative number of deaths for the months in which the humidity was in excess was 83, and for those months in which the humidity was minus, it reached 93. We may, therefore, say, that the months of April, in which the humidity exceeded ·809, were those in which the mortality from scarlatina was in excess; in other words, that a humidity above ·809 will have a tendency to diminish, whilst a humidity below this sum will have a tendency to increase the number of deaths from scarlatina.

MAY.

The mean temperature for May during these nine years was 51°·8; so that if the air had been saturated with moisture, each cubic foot would have contained 4·99 grains; but as the dew point temperature was 48°·2, the quantity actually held in a foot was 4·01 grains: or the same conclusion may be arrived at by comparing the mean temperature and the mean humidity, ·801 In six of these months the mean humidity was above, and in three it was below the average; in the six former the comparative mortality was five times plus, and once minus; in the three latter the mortality was twice above and once below the mean. The mean comparative number of deaths for the months in which the humidity was above the mean was 108, and for those which were below the mean 129. From these data we may assume that an excess in the humidity of the atmosphere is more favourable to health as regards the disease under consideration, than an unusually dry state of the air.

JUNE.

As the mean temperature of the air for this month was 60°·2, 5·91 grains of aqueous vapour would have been contained in a cubic foot had the atmosphere been saturated with it (which would have been represented by 1·000); but as the mean humidity was only ·784, the quantity actually held in it amounted to 4·57 grains only in each cubic foot Three of the above nine months of June presented an excess of moisture, with a plus of comparative mortality in two of the three, and a minus in one and six of the months had an unusually low degree of humidity, the comparative mortality being three times plus, and three times minus. The mean of the comparative mortality for the months which had a plus of humidity was 106, and for those months which presented a low degree of humidity it was 137. It is evident that an excess of humidity in June was coincident with a small increase in the mortality of scarlatina above that of the preceding month (May), whilst a low degree of humidity was attended with a very large increase in the mortality

JULY.

The average of the mean temperature during these nine months of July has been shown to be 61°·5, at which temperature each cubic foot of air would hold 6·15 grains of aqueous vapour if saturated, but as the mean degree of humidity was only ·800 the quantity actually contained in a cubic foot was 4·83 grains. In four of these nine months, the mean degree of humidity was above the average, the comparative mortality being once plus and three times minus in these four months; in five months the humidity was minus the mean, with a minus of comparative mortality twice, and a plus thrice. The mean comparative number of deaths in those months which presented a plus of humidity were 112; in those months which had a minus of humidity, 121. An excess of moisture was co-existent in July with a rather small increase in the mortality from scarlatina, whilst a small amount of moisture in the air was attended with a larger increase in the number of deaths.

AUGUST.

The quantity of aqueous vapour which a cubic foot of air would have contained, had the atmosphere been saturated with moisture, would have been 6.12 grains; but it was not saturated, as each cubic foot contained only 5·00 grains. The mean degree of humidity was above the average in five, and below it in four months: the five former having a plus of comparative mortality three times and a minus twice; the four latter had a plus and a minus of mortality twice respectively. The mean of the comparative mortality for the months of August, in which the humidity was in excess, is 109; and in those in which it was below the mean, 105. The evidence in favour of any great effect produced by variations in the degree of humidity of the atmosphere is less marked in this than almost in any other month; but the balance is in favour of a moist being less fatal than a dry atmosphere.

SEPTEMBER.

The quantity of aqueous vapour contained in a cubic foot of air, taking a mean for the nine months, was 4·59 grains; the quantity which the atmosphere would have contained had it been saturated would have been 5·32 grains. The mean degree of the humidity of the atmosphere was plus the average, ·861 in five months, the comparative mortality for these months being larger than usual in one only, and smaller in four; it was below the average in four months, the mortality being plus twice and minus twice. The mean comparative number of deaths in the months presenting a plus of humidity was 114, and for the months having a minus it was 140. We may, therefore, conclude, that a September having an usually high degree of humidity is more likely to be healthy as regards scarlatina than one having a low degree of humidity.

OCTOBER.

Had the atmosphere been completely saturated—1·000—with moisture, the quantity of aqueous vapour which it would have contained in a cubic foot would have amounted to 4·23 grains, but as the air was not saturated, the mean degree of humidity being ·888, and the temperature of the dew point 45·8, whilst that of the air was 49°.6, the quantity actually in a cubic foot was 3·73 grains. The degree of humidity was in excess in five and minus in four months; in the five former the comparative mortality was plus once, and minus four times; in the four latter—the minus—the mortality was above the mean twice, and below it twice. The mean comparative number of deaths for the months in which the degree of humidity was plus amounted to 120, and for those in which it was minus to 121. The amount of moisture in the air appears to exercise but little influence on the mortality from scarlatina in the months of October; the greatest number of deaths, however, happened in the dry months.

NOVEMBER.

As the mean temperature of the air for this month was 44°·6 Fahr., during these nine years, each cubic foot of air, if saturated with moisture, would have contained 3·59 grains of aqueous vapour, but calculating it from the difference between the temperature of the air and the temperature of the dew-point, we find that the mean amount was 3·18 grains in each foot. In one of the months the mean degree of humidity was the same as the average, in three it was in excess, and in five minus. In the three in which it was plus, the comparative mortality was once plus and twice minus the average; and in the five in which the humidity was less than the mean, the mortality was in excess three times, and below the average twice. The mean of the comparative number of deaths for the months in which the humidity was in excess was 85, and for those in which it was minus the mean number of deaths was 99. An excess of humidity in November seems to assist in diminishing the mortality from scarlatina during this month.

DECEMBER.

The temperature of the air for this month having been shown to have had a mean of 40°·0 in these years, (1840-48,) the quantity of aqueous vapour that would have been contained in each cubic foot of air would have amounted to 3·09 grains had it been saturated; but as the mean of the dew point temperature was 3°·4 below the air temperature, it would have contained only about 2·82 grains. The mean humidity was above the average in four of these months; the comparative mortality being plus twice and minus twice; the humidity was five times less than usual, the comparative mortality being twice in excess, and three times less than the average. The mean comparative number of deaths was the same for both, viz., 77. There is not, therefore, evidence to show that the mortality from scarlatina is influenced in this month by the extent to which the air is saturated with moisture.

We can scarcely help being struck with the great uniformity observed between the increase or decrease in the number of deaths from this disease, and the greater or less degree of hygrometrical saturation of the atmosphere; for, with the exception of December, when the comparative mortality was the same for the months in which the degree of humidity was plus, and for those in which it was minus; and, in March, when the mortality was in excess in the months in which the humidity was also in excess, the mortality was less in those months in which the degree of humidity was above the mean.

We ought next to proceed to consider the absolute amount of moisture contained in the air, as indicated by the elastic force of vapour, in conjunction with the mean temperature, dividing the 108 months into four divisions or quarters, and subdividing them into the hot and humid, the hot and dry, the cold and humid, and the cold and dry, and contrasting each of these with the comparative mortality for the month. But this would occupy too much space, and must therefore be omitted, and we shall therefore pass on, to very briefly treat of the influence exercised by variations in the electrical conditions of the atmosphere.

[To be Continued.]

OBSERVATIONS ON WORMS IN THE HUMAN SUBJECT.

By L. F. CRUMMEY, Esq., Stokesley, Yorkshire.

Amongst the more ordinary—but not the least important—of human diseases, occurs that of intestinal worms.

The following observations are the result of long and attentive inquiry:—

The usual varieties of worms which infest the intestinal canal, are the three kinds described by authors as tænia, lumbricus, and ascaris. Although instances occur of the two former varieties requiring medical intervention, yet the ascaris, or *grub worm*, more frequently prejudices health, and demands the aid of medicine. The tænia and lumbricus generally inhabit the smaller intestines whilst the rectum is the common abode of the ascaris. I have never known the tape, or the earth-worm, leave the body but by the mouth or anus whilst the ascaris, not unfrequently makes its exit at the ears, eyelids, and vaginal orifice, as well as the anus; but I never knew it escape by the mouth. The natural habitat of every species of intestinal worm appears to be the mucous secretions; and upon these, together with the accidental contents of the bowels, they feed. Worms are decidedly hereditary. I have known several instances of lumbrici and ascarides in infants, at the breast, but not of tænia. Worms prevail in certain families at certain periods of life; after which they decline, or, at all events, their presence is less obvious. They are directly influenced by the spring and autumn changes in nature, and also by the changes of the moon. At or about the period of the full moon their greatest activity is observed; and at this time medicine has the greatest effect upon them. In the cases of two children, aged nine and twelve years, who were closely watched during the whole of 1847, there occurred a remarkable accession of all the symptoms during the latter part of the moon's filling; and at these times the greatest number of worms came away. In a boy, aged thirteen, who had been subject to epileptic fits for upwards of five years, it was observed that the fits were considerably aggravated at the full and change of the moon, which was attributed to the lunar influence upon epilepsy. He was not supposed to suffer from worms. Subsequently it was ascertained that he was the subject of ascarides; and turpentine was administered; the expulsion of an incredible number of worms was the result. The remedy was repeated at intervals of two or three days, for the space of three weeks, when the worm ceased to be expelled, nor did any indication of its presence remain. The turpentine was discontinued. He never had an epileptic fit afterwards. The generation and propagation of intestinal worms remain involved in great obscurity. In the horse, much appears to depend upon herbage; and different varieties of worms prevail in different localities. [Mr. W. Barker, veterinary surgeon of this place, has in his possession a very remarkable variety of the entozoa, taken some time ago from the cæcum of a horse, which died from other causes; and which has been known to occur only on a certain farm in the neighbourhood of Stokesley.] In the human subject I am quite satisfied that the generation of worms does not depend upon peculiarity of food, &c. I have found them equally amongst children of the poor, and those of the rich; in cases, where no regard was paid to the nature of the diet, as well as those where the most scrupulous attention prevailed. The only liability which I have observed, is where the diet has been almost exclusively animal. In the families of butchers, worms are very frequently found; but in these cases a strong hereditary predisposition is commonly noticed. That the generation of many varieties of intestinal worms in the horse depends upon the insect tribe; that the ova are deposited upon the skin of the animal, and conveyed from thence into the intestinal canal, and there undergo a species of incubation, I could never be induced to believe; for I have frequently observed the same kind of worm where the animal was stable-kept the whole year round; and, further, we find the same variety in the dog, and cat, and also in the human subject. There appears to me to exist in certain habits, in man and in the lower animals, a peculiar tendency to generate worms, and which depends upon circumstances over which we have little or no control. The first stage in which I have ever been able to recognize intestinal worms, is that of the *worm bag;* these mucous pouches seem to be the habitation of the animal for a certain period of its existence; after which it is found in an independent and separate state. The peculiar envelope, to which the common people have given the name of *worm bag*, is found to vary in form, size, and structure. When floating in the evacuations, they resemble irregular-sized pieces of jelly, or slime, adhering to the surrounding matter, but capable of ready and perfect separation. They are, in certain stages, extremely tenacious, and resist considerable pressure. When torn, or cut open, they appear to the naked eye to be filled with small white thread ends, from half a line to two lines in length. Under the microscope, they are revealed as perfect animals; and when exposed to the action of heat, or diluted oil of turpentine, their motions are distinctly perceptible.

Their appearance and the nature of their contents are perfectly alike in the human subject, and in the dog and cat.

It is the observance of these mucous bags in the evacuations which constitutes the only infallible indication of the presence of worms in the intestines when the perfect animal is not known to come away. In one remarkable and fatal case of ascarides which occurred in an adult at South Stockton during 1848 the existence of intestinal worms was never suspected, although the symptoms had continued upwards of six months, until *worm-bags* were detected in the evacuations; nor would the relations believe the disease to be worms, until the opening of the bags revealed their contents. The oil of turpentine was administered, both *per annum* and by the mouth, which had the effect of bringing away an enormous number of worms, in various stages of development, and procuring a marked relief to all the more urgent symptoms. Although in a very unfavourable condition, this patient rallied perceptibly after every dose of turpentine. Eventually, however, he sank. A very intelligent little girl, aged nine years, had been subject for upwards of eighteen months to very peculiar nervous phenomena, sometimes of an hysterical, at others, of a cataleptic character. No method of treatment afforded any decided relief. An examination of the evacuations after purgation revealed the presence of worm-bags. The expulsion of great quantities of ascarides was accomplished; after which all the neuralgic symptoms entirely disappeared. I cannot conclude these desultory observations without offering my testimony in support of the superiority of the oil of turpentine over every other remedy in the treatment of worms. In the advanced and independent state in which these parasites exist in the intestinal canal, perhaps several agents have been found to occasion their expulsion; but in their pristine or embryotic condition, when enveloped in their mucous covering, I have met with no remedy capable of expelling, much less of exterminating them, except turpentine. The *worm-bags*, whilst entire, protect their inmates from the action of the ordinary Anthelmintics, and the extermination of intestinal worms cannot be accomplished unless these mucous citadels be overthrown. I am induced to hope, that these observations, although in themselves uninteresting, may have the effect of directing the attention of the readers of the *Medical Times* to this important subject; and that some of my professional brethren better qualified will illustrate the nature and treatment of intestinal worms.

Stokesley, June, 1849.

PROGRESS OF MEDICAL SCIENCE.

FRANCE.

(From our own Correspondent.)

The cholera continues to follow its decremental movement, and nothing, since my last letter, has occurred to confirm the apprehensions of the French press, viz., that a return of heat would be accompanied by a recrudescence of the epidemic. On the contrary, the disease has continued to vanish, almost in the arithmetical progression, of 20 per day; and we may safely conclude that before the close of the present month, its disappearance from the capital will be officially announced.' *En revanche*, it is spreading with great rapidity over all the Departments; but "sufficient for the day is the evil thereof:" let us confine ourselves, for the present, to Paris.

The following is the weekly return of mortality from cholera in the city and hospitals:—

	Deaths in City.	Hospitals.	Total.
21st	74	46	120
22nd	67	30	97
23rd	41	39	80
24th	32	32	64
25th	34	31	65
26th	37	40	77
27th	25	19	44
			547

The latest returns, though not yet officially made, indicate a still further decrement, and, as I said before, within a month, perhaps a fortnight, we shall have to announce the complete disappearance of this unwelcome visiter.

The gravity of the "sweating sickness," which prevails in many of the provinces, has, I am glad to say, been greatly exaggerated. From the accounts forwarded by the medical men, whom Government had dispatched into the provinces, it would seem that the disease yields readily to emetics of ipecacuanha and a cooling regimen. Amongst the deaths of the past week I have to record those of two members of our Profession. Drs. Ledure and Paulin-Debourg, attached to the *bureaux de secours*, fell victims to their zeal. The respected Chaplain of La Pitié, also, M. Delabare, who had never ceased during the epidemic from his labours, was attacked towards the end of last week and cut off in a few hours. The greatest efforts are being made to relieve the families of those thus unexpectedly removed. M. de Rothschild has subscribed 10,000 francs; the various public companies have given different sums, proportionate to their importance, and the National Guard has organised a system of domiciliary visits, which leaves open no door for refusal or excuse. But the poverty here is now so general that the collection will, I fear, be insignificant.

The journals relate, what they call some "curious" experiments on the contagion of cholera, recently made at St. Petersburg, by order of the Czar. They are not, as you will perceive, very conclusive; but, when so great a personage condescends to dabble in medical science, the least we can do is to notice his work. Four assassins, condemned to death, were compelled to sleep in the beds of patients who had died of cholera; the malefactors escaped the disease. They were then placed in the same beds with patients, who, they were told, laboured under cholera, (though really affected with other maladies;) the assassins were so terrified that they all died within three days. Such is the story; it seems rather apocryphal; but the Czar is a man *à part*.

The only matter worthy of notice which was discussed at the last meeting of the Academy of Medicine referred to a supposed case of "uterine polypus projecting through the walls of the abdomen." It occurred in the practice of M. Loir, and would be unique, if really such as it is described. M. Roux, however, thinks that the polypus must have been developed from the interstices of the walls of the uterus. M. Hugier, who examined the patient, appears to regard the case rather as one of hypertrophy of the uterine walls; and this is probably its true signification.

At the last meeting of the Academy of Sciences two subjects of popular interest—and, therefore, worthy of notice—were discussed. Although we have been accustomed to regard as fabulous the feats of fire-kings and other like charlatans, it is certain that, under circumstances which have not yet been clearly ascertained, the human body, or, rather, parts thereof, is capable of supporting, uninjured, an extraordinary degree of heat.

If I remember right, it was M. Boutigny who first demonstrated the fact that it was possible, without the slightest injury, to dip a finger into a

mass of melted lead and cut with the hand a jet of liquid metal. The experiment, probably, did not find much favour amongst scientific amateurs; but it has been long familiar to the workmen employed in blast furnaces, and has recently been confirmed by M. Perry, from whose communication I select the following extract:—

"On the 3rd of June (writes M. Perry) I visited the blast furnace at Val-Suzon, near Dijon. I asked the workmen whether any one of their comrades ever ventured to place a foot on the molten metal, and they immediately indicated one who was in the constant habit of making the experiment. The man commenced by sweeping clean the metallic fluid, which had been melted about a quarter of an hour previously. He then carefully removed every particle of sand or dust from the soles of his feet, and then placed them successively on the surface, leaping from one foot to the other. Encouraged by the result, I stamped three times on the incandescent metal, but I confess that I had not the courage to walk upon it. At the expiration of a quarter of an hour, we could distinguish the marks of our feet, and in half an hour the footsteps were perfectly delineated in a dark brown trace, which offered a striking contrast to the brilliant redness of the metal."

The other subject noticed by the Academy of Sciences referred to a new alimentary plant brought from South America by M. Picquot. The learned traveller, indeed, had brought home with him *two*; but it turned out that one of them, the *Apios tuberosa*, had been cultivated in France for the last hundred years. The other, *Psoralea esculenta*, is entirely new, and seems destined to take a high rank amongst our nutritious vegetables. It grows well in elevated, and apparently barren situations, and is easily preserved by drying. The French agriculturists appear to have much confidence in the result of the experiments about to be made with this interesting vegetable, which promises to rank next to the potato.

You are, doubtless, familiar with the recent experiments, which appeared to demonstrate an intimate correlation between muscular contractions and the development of electricity. These experiments have been repeated by M. Matteucci, the highest authority in matters of this kind; and he writes to the Academy to state, that he has not been able to establish the relation of cause and effect between the two phenomena. The needle, it is true, undergoes a deviation after each muscular contraction; but the deviation is not in proportion to the energy of the muscular effort, nor is the direction of the needle constant.

One of the many advantages which Paris enjoys over London is, as everybody knows, the number and cheapness of its bathing establishments. In all the populous quarters a warm bath can now be obtained for ten sous,—something less than fivepence,—and it is probable that even this moderate price will soon be diminished, thanks to M. St. Leger, head engineer of the mineral district of Rouen. M. St. Leger proposes to employ a portion of the warm water which escapes in waste from the numerous manufactories of the town, for the purpose of establishing public washing-houses and baths, open to the indigent *gratis*, and to the poorer classes at a very low price. His calculations demonstrate that the first cost of an establishment, in the neighbourhood of one of the manufactories alluded to, would not exceed 60*l*., nor the annual expense 80*l*.; which latter would be amply covered by the receipts. The Corporation of Paris is about to take the matter up, and it may be well worthy the attention of those to whom the care of the "public health" is entrusted in our large manufacturing towns, where the "great unwashed" are so numerous and so neglected.

An interesting experiment, the results of which may be important, was lately made at the laboratory of the School of Chemistry. An immense quantity of carburetted hydrogen was obtained from wine lees by the simple application of heat. The gas was well suited for the purposes of lighting, and it is expected that the refuse of the wine-tubs may be turned to a good account. Perhaps, the refuse of our breweries might answer as well.

The authorities paid a visit to M. Baral, Professor of Chemistry, at the Polytechnic School, on Saturday last, for the purpose of seizing him; but, while the police officers were seeking proofs of "treason" in the crucibles, the worthy Professor slipped out through a secret door, and has not been heard of since.

TREATMENT OF CHOLERA.

Dr. Handvogel has published, in the *Union Médicale*, a method of checking vomiting in cholera, and thus preventing the ejection of medicines. He obviates this great inconvenience by means of the hydro chlorate of morphine, which he uses endermically; that is to say, he makes a slight incision in the epigastric region and applies the drug He assumes that he thus succeeds in checking both the vomiting and purging.

Dr. Lecœur, Professor of Materia Medica at Caen, recommends the chlorate of gold, and strychnine in cholera, which he conceives to be a purely nervous disease, depending upon a certain electro-magnetic state of the atmosphere, in consequence of which there is an undue subtraction of electric fluid from the body. Hence the Professor proposes, by strychnine and the chlorate of gold, to stimulate the ganglionic system, the seat, according to him, of the disease.

Dr. Manget, of Paris, uses the sesqui-chlorate of carbon. He recommends general friction to be persevered in, and assures us the exhibition of the carbon is followed by a profuse perspiration. At the end of three hours he generally finds it necessary to administer a second dose, but seldom a third. He says this preparation of carbon is the most powerful diaphoretic with which he is acquainted.

Dr. Taulier, of Saint-Victor-Lacoste, uses the sulphate of quinine in the treatment of cholera, and, as he says, with the happiest results.

Dr. Bonet, a physician of Paris, informs his Professional brethren, that, in a great number of patients affected with cholera in the last stage, that to say, when the pulsation of the heart and the movement of the pulses are absent, and in the commencement of the blue stage, he has succeeded in restoring the action of the heart, and in recovering the patient from the blue stage by administering, at intervals of half an hour, four cups of a hot an sweetened infusion of the common lime-tree, mint, balm, or chamomile, &c., in each of which cup of infusion were four drops of volatile alkali, making sixteen drops, which the patient may take in two hours. The reaction (he says) is almost instantaneous—the pulse commencing almost instantaneously to beat, rather irregularly at first, but afterwards with force, the blue state disappearing, the body face, and extremities being covered with hot and copious sweat, and in a few hours the patient is entirely out of danger.

A Mr. Royer, surgeon to the Garde Mobile claims the merit of having *discovered* an infallible remedy in "brandy and salt." The worthy Mobile seems to be ignorant of the writings of Solomon.

For ourselves we wonder, with all these remedies, that patients will continue to die of cholera. We have little faith in any one of them.

DRY CUPPING IN INTERMITTENTS.

Dr. L. F. Goudret has, in a little Pamphlet lately published, urged the advantages to be gained in the treatment of intermittent fever, by the application of dry cupping glasses in the vicinity of the spinal cord. He directs from eight to ten glasses to be applied on either side of the vertebral column the moment the cold stage sets in, and he affirms that, if this be done, the paroxysm will be cut short. Dr. L. F. Goudret does not appear to have been very successful in persuading his medical brethren of the truth of his assertion, or he would hardly have been reduced to the necessity of heading his *brochure*, "Traitement de la Fièvre Intermittente mis a la portée du Public."

Dr. Goudret's plan of treating intermittents appeared at full length, in his own words, in a letter in the *Medical Times*, from the Doctor himself, Jan. 20, 1849.

GERMANY.

[From our Berlin Correspondent.]

If a Berlin medical man meets an acquaintance, the second question which he puts to him—for the first is always on politics—is, "Will the cholera spread itself in Berlin?"

It has made its re-appearance amongst us during these last three weeks, but has as yet satisfied itself with about forty victims, to which number each quarter of the town has furnished its proportion. Will the sword of Damocles fall on our heads, or shall we be let off for the mere fear? Last year we had a man who could resolve our doubts. An empiric did, like a Roman Haruspex, from the tenor of circumstances, foretel that the cholera would not, as the world at large expected, make its appearance at Berlin in the spring, but in the autumn. Nevertheless, the charlatans have not as yet expressed their opinion on the epidemic of this. The town of Breslau has, for the second time, been most terribly visited by this scourge. The terror was still more increased by the frequency of sudden deaths. Whoever could leave the town took refuge among the mountains of Silesia, in order to inhale their pure air. At present the cholera is on the decrease there. At Halle, a town with a population of 30,000 souls, the relative number of deaths was still greater. More than the thirtieth part of the population succumbed to this malady.

Permit me, in the absence of novel medical matter, to give you some remarks on the medical statistics of Prussia. They are grounded on copies of several Tables published at our "Statistic Office." In the end of 1846 (the census takes place triennially) there were in Prussia, on an area of 5080 square miles, (German measure,) and with a population of 16,110,000, 5137 private physicians, 351 army doctors, 827 surgeons of the first class, 1144 surgeons of the second class, 1423 druggists, and 11,539 midwives. Thus, if the distribution of the population and of medical aid in all the provinces Prussia were equal, you would have one physician to every square mile with 3000 inhabitants; to every 11,000 inhabitants one druggist; and to every 54 births one midwife.

These data, unfortunately, are only chimerical; for it is proved, from official Reports, that we possess a great number of districts with a population of from 10 to 12 and even 16,000 inhabitants, and located on 8 or 10 square miles (German) on which there is only one medical man; and on a surface of 10 to 15 square miles (German) with a population of from 30,000 to 40,000 only one druggist. These neglected localities are situate principally in the provinces of East and West Prussia, in Pomerania and Upper Silesia. The provinces of Middle Prussia are the best provided with medical aid. In the town of Berlin (possessing a population of 410,000 inhabitants) there 318 private physicians, 41 army doctors, 20 surgeons of the first, and 51 of the second class, 34 druggists, and 59 midwives.

The proportion of mortality in Prussia is 1 in 34, and in this respect it stands nearly on a footing with Austria and Russia, where the mortality is 1 in 33. On the contrary, in France and England, the proportion of deaths keeps up with the increase of population, as 1·40 and 1·44. The difference of mortality in the several parts of Prussia is very great, so that, while in one part of the Kingdom, (for example, Berlin, Westphalia,) 1 death occurs among 41 persons; in other parts (West Prussia), almost every 27th individual dies.

The proportion of births to the number of living is on an average as 1 in 25.

Before the completion of the first year of existence in the western provinces, 1 out of 5 or 6 infants dies, and in the eastern provinces 1 out of 4 or 5.

The number of persons who die from old age greater in the western and central provinces than in the eastern; for, while in the neighbourhood of Trêves and Aix-la-Chapelle 14 to 15 per cent. of all kinds of deaths proceed from this cause, 8 to 10 per cent is the highest average in the neighbourhood of Dantzic and Konigsberg. In Berlin only 6½ per cent. of deaths belong to this category. The number of births out of wedlock

is greatest in Berlin, where every sixth child is illegitimate. Next to this city, the provinces of Silesia and Saxony can boast of the greatest number, viz., 1 in 11; while in the Rhenish provinces only 1 child out of 32 is illegitimate.

Generally speaking, we may draw the following conclusions from the data contained in the above official tables:—

1st. That where the greatest opulence exists, the number of birth is the smallest. That opulence, which encourages intellectual and social refinement, which creates innumerable worldly enjoyments, causes the mutual relation of the sexes to lose that *exclusively material character* which it possesses amongst uncultivated people. The neglected population of the Upper Silesian villages, with whom, for instance, drunkenness and coition were the chief sources of enjoyment a few years back, increased remarkably until the occurrence of typhus in 1847. Affluence at the same time diminished, for the proportion of dwelling-houses (huts with one room) was to the proportion of increase of population as 20 to 1. At present, indeed, the population increases but slowly, and the cause of this is to be found in the prostration of the vital strength which characterises the people since the introduction of Temperance Societies and the invasion of the typhus.

2ndly. The mortality is not always in direct proportion to the number of births, but is always greater and less according to the degree of refinement and opulence of the people.

3rdly. Has the number of medical men any perceptible influence on mortality? There are sceptics who maintain, that it is not more possible for medical men to limit the mortality amongst mankind, than it is for clergymen to decrease immorality. Our tables come to the following conclusions, that the maladies inherent to human nature can be classified into *acute*, *chronic*, and *uncertain*, (*i.e.*, such as are not treated by medical men). Thence, in those localities where a small number of medical men practise in an extensive field, the deaths are in consequence *acuter* and more *uncertain*, and illness much more frequent than elsewhere. From this we may infer, that, at least, in this respect, the activity of medical men has influence on the mortality. Nevertheless, in arriving at a fair and natural view of the causes of mortality, we think, that in many places where medical advice is scarce, the deficiency of the medical staff has much to do with it.

AMERICA.

INFLUENCE OF POSITION IN THE CURE OF TRISMUS NASCENTIUM.

Dr. J. W. Clement relates, in the *American Journal of Medical Sciences*, the cure of an infant to whom he was called two weeks after its birth, in consequence of a supposed attack of croup. He found the child lying on its back in spasms, with a hard croupy respiration, the head somewhat elevated by a large pillow for the purpose of relieving the respiration. The head, on examination, presented an unusual form. The occipital bone was much depressed, the posterior edges of the parietal bones riding over it, forming a strong and well-defined ridge. The disease was at once suspected to be that of trismus nascentium. The child was placed on its side, in order to remove the pressure from the posterior part of the head, and in half an hour the spasms ceased, and the breathing gradually became more free. By attention to the position of the child in the cradle no unfavourable symptoms returned.

MEANS TO REMEDY THE BRITTLENESS OF NITRATE OF SILVER CRAYONS.

M. Chassaignac proposes that, in the centre of the stick of caustic, a fine platinum wire should be placed. M. Blatin recommends that a wick of cotton be placed in the mould previous to the introduction of the fluid nitrate of silver.

IRON ROD, WEIGHING 13¼ POUNDS, DRIVEN THROUGH THE HEAD—RECOVERY.

Dr. J. M. Harlow records, in the *Boston Medical and Surgical Journal* (Dec. 13th), the following remarkable case:—A man, twenty-five years of age, of vigorous constitution and temperate habits, was charging a hole preparatory to blasting, when the powder exploded, driving the tamping iron against the left side of his face, immediately anterior to the angle of the inferior maxillary bone. Taking a direction upward and backward towards the median line, it penetrated the integuments, the masseter and temporal muscles, passed under the zygomatic arch, and (probably) fracturing the temporal portion of the sphenoid bone, and the floor of the orbit of the left eye, entered the cranium, passing through the anterior left lobe of the cerebrum, and made its exit in the median line, at the junction of the coronal and sagittal sutures, lacerating the longitudinal sinus, fracturing the parietal and frontal bones extensively, breaking up considerable portions of brain, and protruding the globe of the left eye from its socket, by nearly one-half its diameter. The tamping iron is round, and rendered comparatively smooth by use. It is pointed at the end which entered first, and is 3 feet 7 inches in length, 1¼ inch in diameter, and weighs 13¼ pounds. The patient was thrown upon his back, and gave a few convulsive motions of the extremities, but spoke in a few minutes. He was carried to an ox-cart, in which he rode, sitting erect, full three-fourths of a mile to a house. On his arrival there, he got out of the cart himself, and, with a little assistance, walked up a long flight of stairs, where he was dressed. When seen by Dr. Harlow, an hour and a half after the accident, he was perfectly conscious, but was becoming exhausted from the hæmorrhage, which was very profuse, both externally and internally, the blood finding its way into the stomach, which rejected it as often as every fifteen or twenty minutes. Pulse sixty and regular. His person, and the bed on which he laid, were literally one gore of blood. Assisted by Dr. Williams, of Proctorsville, who was first called to the patient, Dr. Harlow proceeded to dress the wounds. From their appearance, the fragments of bone being uplifted and the brain protruding, it was evident that the fracture was occasioned by some force acting from below upwards. The scalp was shaven, the coagula removed, together with three small triangular pieces of the cranium, and in searching to ascertain if there were other foreign bodies there, Dr. Harlow passed in the index finger its whole length, without the least resistance, in the direction of the wound in the cheek, which received the other finger in like manner. A portion of the anterior superior angle of each parietal bone, and a semicircular piece of the frontal bone, were fractured, leaving a circular opening of about 3½ inches in diameter. This examination, and the appearance of the iron which was found some rods distant, smeared with brain, together with the testimony of the workmen, and of the patient himself, who was still sufficiently conscious to say that "the iron struck his head and passed through," was considered, at the time, sufficiently conclusive to show not only the nature of the accident, but the manner in which it occurred.

The spiculæ of bone having been taken away, a portion of the brain, which hung by a pedicle, was removed, the larger pieces of bone replaced, the lacerated scalp was brought together as nearly as possible, and retained by adhesive straps, excepting at the posterior angle, and over this a simple dressing—compress nightcap, and roller. The wound in the face was left patulous, covered only by a simple dressing. The hands and forearms were both deeply burned nearly to the elbows, which were dressed, and the patient was left with the head elevated, and the attendants requested to keep him in that position.

Antiphlogistic remedies were vigorously employed from the 13th of September, the day on which the injuries were received, to the 3rd of October, during which time the patient lay in *a semi comatose state, seldom speaking unless spoken to, and then answering only in monosyllables.* During this period, fungous growths started from the brain, and increased rapidly from the orbit. To these was applied nitrate of silver cryst., and cold to the head generally. The dressings were renewed three times in every 24 hours; and in addition to this, laxatives, combined with an occasional dose of calomel, constituted the treatment. The pulse varied from 70 to 96—generally very soft. During this time an abscess formed under the frontalis muscle, which was opened on the 27th, and has been very difficult to heal. Discharged nearly ℥viij at the time it was punctured. On the 5th of October he began to improve, and by the middle of November every unfavourable symptom was removed, and the patient appeared quite well.

DEATH FROM PRESSURE OF AN ENLARGED THYROID GLAND.

Dr. F. H. Hamilton presented to the Medical Society of the State of New York (Feb., 1849) a cast in plaster of an enlarged thyroid gland, with the trachea attached, which had been removed from a patient after death. Dr. Hamilton stated the history of the case to be as follows:—During more than twenty years the patient had suffered from occasional paroxysms of difficult breathing, which he at first supposed to be asthma. The difficult respiration had, however, gradually increased, accompanied with a steady enlargement of the thyroid gland, especially on the right side. During several months preceding his death his sufferings were extreme and unremitting, and the most skilful treatment failed to afford the least permanent relief. A few weeks, however, before the fatal event, he had experienced temporary relief from a sudden discharge of a small quantity of grumous matter through the trachea.

Dr. Hamilton saw him in the early part of January, 1849. At this time he had not slept for several days, except when for a minute or two he voluntarily suspended the act of respiration. The trachea was pressed forcibly to the left, being displaced in this direction about one inch. Upon consultation it was determined that in this condition he could survive but a few hours, and that an operation was demanded. Dr. Hamilton, knowing well the formidable character and connexions of the tumor he had to deal with, did not at any time propose to remove the gland, but suggested the possibility of prolonging life by removing the pressure of the muscles and fascia which bound it against the trachea. Accordingly, he cut across the neck, from the posterior edge of the sterno cleido-mastoid to the centre of the trachea, traversing all the textures down to the tumor. But neither this nor the elevation of the tumor with the tenaculum diminished the difficulty of breathing. He then dissected up, and cut off that portion which lay in front of the trachea. But the breathing continued the same. With two ligatures and applications of snow, the hæmorrhage from the incision upon the gland was soon arrested. It now became apparent that the trachea was permanently narrowed by the long and continued pressure, and the operation of tracheotomy was made below the tumor as a final and only resort. Through this opening he continued to breathe quietly and freely until his death, which occurred three days after.

The *autopsy* disclosed the following facts:—The right thyroid lobe enlarged to about five inches in its transverse diameter, and degenerated; containing several imperfectly formed cysts filled with grumous matter. One of these cysts, with a portion of the hypertrophied structure, was situated directly behind the trachea, occupying all the space between the cricoid cartilage and the sixth or seventh cartilaginous ring, and encroaching upon the tube from this direction so as to effect an almost complete closure; leaving only an opening of about two lines in diameter. The left lobe was also considerably hypertrophied, and degenerated in the same manner with the right.

SUPERFŒTATION AND MIXED BIRTHS.

Dr. Thomas B. Taylor, of Princeton, Miss., relates (*N. O. Journ.*) the following as a case of superfœtation:—A negress, aged about thirty-five years, in May last, was delivered of twins; one a mulatto, and the other a negro child. She had been married to a negro man on the plantation, of delicate constitution, for many years, and had had several children by him. Her menstrual discharge

had occurred for several months previous to her pregnancy, at about the full of the moon. She felt herself pregnant by her customary signs, about the middle of the month; and, to confirm her suspicions, at the next period it did not appear. About three weeks from the time she had first felt she had conceived, and one week after her menses had failed to appear, she had sexual intercourse *once* with a white man. She slept with her husband every night, —had connexion with him the night before she had intercourse with the white man, but not on the same night. At their birth the mulatto child bore marks of being at least three weeks younger than the negro; thus sustaining the woman in her suppositions as to the time between her two conceptions

CASES IN WHICH A LARGE QUANTITY OF CHLOROFORM WAS USED.

Professor Jackson related a case in which a remarkable quantity of chloroform was used. A lady labouring under a stricture of the upper portion of the rectum, which prevented the flatus from passing became, in consequence, the subject of an enormous distension of the abdomen, attended with so great degree of sensitiveness, that the use of palpitation and percussion were entirely precluded, and her case was at first involved in no little obscurity.

In the latter part of the month of December, 1845, she was attacked by a violent convulsive paroxysm, preceded by a very peculiar spasmodic affection, consisting in a cracking of the head of the humerus in the glenoid cavity, and of the femur in the acetabulum; these spasmodic symptoms continued for about fifteen minutes, when general convulsions set in, accompanied with intense pain. On the 1st of January, 1846, an attack of spasms occurred and continued for several hours; the urine was retained from a spasmodic affection of the neck of the bladder and urethra, the orifice of which latter was so much retracted, that it was difficult to introduce a catheter to relieve the distension of the bladder. A few drops of chloroform were given to the patient to inhale, and prompt relief was experienced. The use of the chloroform was continued daily for two or three weeks, the quantity being gradually increased as the effects diminished. Dr. Jackson was sent for one morning and found the mother of the lady in great alarm in consequence of the quantity of chloroform which her daughter had taken. She had inhaled two ounces in the course of the evening, then two ounces more, and an additional ounce in the course of the night; being five ounces inhaled from 5 o'clock p.m. until 10 o'clock of the ensuing morning. Dr. Jackson found her with a feeble pulse, diminished temperature of the body, and considerable excitement of mind. She insisted upon having more of the ether to inhale. She remained cold and nearly pulseless for forty-eight hours, when all effects of the inhalation disappeared, and, what is remarkable, since that time she has had no return of her spasms. Upon one occasion having a tooth taken out, the pain of the operation caused a tendency to their return, but this went off without the spasms occurring.—*Trans. Phila. College of Phys.*, Vol. II. No. 6.

LOCAL ANÆSTHESIA IN NEURALGIA.

Dr. Hays stated, that he had employed the chloroform to produce local anæsthesia with apparently the most happy effects, in a case of neuralgia, occurring in a gentleman fifty years of age, who had been for a long time a sufferer from neuralgia of the foot, in which all the remedies that had been previously employed failed to produce relief. When Dr. Hays was called to this patient, he found him in intense pain, which had deprived him of sleep the whole of the preceding night. Dr. Hays directed the affected parts to be enveloped with a pledget of lint or a few folds of muslin wet with chloroform, and the whole to be covered with a portion of oiled silk to prevent evaporation; on the next morning he found him entirely free from pain, which has not since returned. Whether the relief experienced in this case is to be ascribed to the local anæsthesia produced by the chloroform, or is to be considered as a mere coincidence, Dr. Hays does not pretend to decide.—*Ibid.*

Since this communication was made to the College, the further history of the case has shown, that an arrest of the paroxysm is always accomplished by the application of the chloroform; and to the use of the article, several other similar cases have been attended with like results.

ETHER IN NEPHRITIC COLIC.

Dr. Stillé stated, that, last spring, Dr. Bowditch, of Boston, related to him a case of nephritic colic, occurring in an individual who had previously suffered from several attacks, in which the chloroform had been administered with the effect of inducing entire relief of the pain, without abolishing consciousness. The influence of the chloroform was kept up for several hours, when, at length, the stone passed through the ureter. Within the last three weeks, a lady, about 20 years of age, after retiring to bed some hours, was attacked with violent pain in the region of the right kidney. About an hour afterwards (one o'clock, a.m.) Dr. Stillé was sent for. The mother had applied warm fomentations to the loins, and immersed the feet in a mustard bath. There was still intense pain, with tenderness over the region of the right kidney. The patient was lying bent double, her hands and feet were cold, her pulse feeble, and about sixty in the minute. The pain extended in the direction of the ureter; there was pain and a twitching motion of the right thigh, with frequent inclinations to urinate. From a review of the symptoms, Dr. Stillé considered the case to be one of nephritic colic. The use of ether was suggested. A teaspoonful was poured upon a handkerchief, and inhaled for five minutes, when the patient fell asleep. In about fifteen minutes she was aroused by a return of the pain. The ether was again inhaled, and its impression was kept up for about an hour, without carrying it so far as to abolish consciousness; the pain ceased, the extremities became warm, and the pulse rose to seventy-five. The next morning there was no pain complained of, but considerable soreness was experienced when pressure was made over the right kidney. The pain did not return until two nights afterwards, when a larger dose of the ether was used by the patient without Dr. Stillé's presence or direction, but from some cause it did not produce the same alleviation of the pain as before. At four o'clock in the morning Dr. Stillé saw her. The pain had by this time somewhat abated, and upon the administration of an opiate enema complete relief was procured. The pain has not since returned. No calculus was passed, so far, at least, as could be ascertained.—*Ibid.*

ON THE DEVELOPMENT OF THE PURKINJEAN CORPUSCLE IN BONE.

Dr. Joseph Leidy says, in the proceedings of the Academy of Natural Sciences of Philadelphia, the mode of development of the Purkinjean corpuscle, as noticed upon the upper or posterior border of the os frontis, is briefly as follows:—After the primitive ossific rete has been formed from the deposit of the osseous salts, enclosing groups of cartilage cells in the areola, the further deposit takes place in a fibrous or line-like course from the parietes of the areola of the primitive osseous rete, in the interspaces of the cartilage cells nearest to, or in contact with the sides of the areola. At this period the cells shoot out or extend their canaliculi between the fibrillæ just formed, and then the cell-wall and continuous walls of the canaliculi fuse with the translucent, homogeneous, or hyaline substance of the cartilage existing between the cells and the osseous fibrillæ, and with the fibrillæ themselves, by the deposit of the osseous salts. The period of the formation of the canaliculi appears to be quite definite, occurring during the deposit of the osseous salts, and not before. To such an extent is this the case, that I noticed in several instances cells which had formed their canaliculi upon the side which was ossified, while upon the other side I could not distinguish any trace of them.

During the whole time of the formation of the Purkinjean corpuscle, the nucleus remains unchanged; at least no change is perceptible in it beneath the microscope, and by applying tincture of iodine to the preparation, which turns the nucleus brown, I was able to detect it within the perfected Purkinjean corpuscle, not only corresponding to the nucleus of the remaining unossified cartilage cells in granular structure, but also in its measurements. After the Purkinjean corpuscle has been formed a short time, the nucleus dissolves away or disappears.

The newly-formed Purkinjean corpuscle is about the same size as the remaining unossified cartilage cells, as indicated in the list of measurements appended to these notes.

Size of cell of temporary cartilage, from the unossified os frontis of a human embryo, 1-1886th of an inch; nucleus of ditto, 1-3125th of an inch; nucleolus, 1-8333th of an inch; Punkinjean corpuscle, 1-1865th of an inch; nucleus within the same 1-3030th of an inch.

PROGRESS OF PHYSICAL SCIENCE.

ETHNOLOGICAL SOCIETY.—May 23.

Sir Charles Malcolm, Vice-President, in the Chair.

ON THE NATIVES OF ULLADULLA, NEW SOUTH WALES.

By J. P. Townsend, Esq.

Well do I recollect when first I met these primitive fresh-water sailors, paddling along in a little fleet. Their presence added not a little to the interest of a novel landscape; and I was astonished by their vociferation and by their hail in a strange jargon. As usual, they were surrounded by an atmosphere of hilarity; and their merry peals of laughter ran loudly. The men are darker than the younger women. Indeed, their colour is much that of soot. The half-casts are of a light yellow complexion. A few of the men wear opossum cloaks. They have short beards, which being grey in the older men, has a very singular appearance when contrasted with their black faces and glimmering eyes. Their weight must be comparatively very trifling, their limbs being of the smallest possible size. It is rarely that a man is found among them who is not perfect in stature, in limb, and in activity. They are excellent mimics, and seize, in a moment, on any peculiarity that marks the white man; even on the pronunciation of a Devonshire boy, or the gruff manner of a captain in the navy. They can at any time supply themselves with 'possums, bandicoots, kangaroos, fish, wild-fowl, honey, and gum, for the country around Ulladulla is wild and but partially settled. Like the Australians, generally, they have a notion of a Being whom they by no means worship, but, on the contrary, attempt to outwit, called the Devil Devil; and he, they think, will do them a mischief if he have an opportunity; for instance, carry them off in the dark. They sometimes carry a body about with them for months, sewed between two sheets of bark, in order that, by reason of their prolonged wanderings, the spirit of the deceased might not be able to track them, and bring the Devil Devil in its train. They ultimately bury the body in a deep grave, the gins (wives) waiting around and repeating, with rapid utterance, a doleful chaunt, whilst the tears stream down their cheeks. They number about 400. They used, occasionally, to hold great meetings for the purpose of playing at foot-ball, and certainly finer figures than the naked players exhibited could not be desired. On such occasions they wear only the maro, a belt round the abdomen, and depending from it, both before and behind, tails formed of the fur of the kangaroo. The same fate awaits this interesting people that has befallen the Botany Bay tribe, of which only one individual remains. He is very intelligent, and has a ten acre piece of ground, and some "white fellow" tenants.

THE YAKHAS (DEVIL WORSHIPPERS), NOW CALLED VEDDAHS, THE ABORIGINES OF CEYLON.

By Charles Pridham, Esq.

June 20.—Throughout the wild range of the British empire (remarks Mr. Pridham), there is, perhaps no remnant of a once numerous people which has a stronger claim the consideration of the ethnologist than the Veddahs of Ceylon. Forming,

in ages too remote for the historian to fathom, one of the aboriginal races of the island, they appear, from a combination of circumstances, to have preserved in a great degree the peculiarities of race, language, and manners known in later days by the name of Bedas, Weddahs, Vaddahs or Veddahs. This race inhabits a vast tract of forest country, with an area of nearly 2,000 square miles, denominated Veddah Ratte and Maha Veddah Ratte, the former adjoining the district of Bintenne, and the latter the district of Welasse and Ouva, the whole being bounded to the east by the district of Batecalo; to the south by the Mahagama, Pattoo, and Ouva to the west and south-west by the Kandian mountains, and to the north by the Mahanette Ganga. These people are divided into two communities, varying considerably in their manners and mode of life. One, called the wild or forest Veddahs, build their huts in trees, live in pairs, only occasionally assembling in greater numbers, and exhibit no traces of the remotest civilisation, nor any knowledge of social rites; the other called the village Veddahs, who may be said to be a link between the Singhalese and their wilder brethren, congregate in villages, live in tents, and cultivate,—if scratching the earth, scattering seed, and striking roots into the ground, can be dignified with such an appellation,—small patches of Kurykkan maize, and a wild species of bringal. In times of scarcity they will eat decayed wood, mixed with honey, and made into cakes, but this is not so much for nourishment as to distend their empty stomachs and allay the distressing feelings of hunger. Until recently, the Veddahs had Kandians of the neighbouring districts for headmen, through whom they kept up a sort of communication with the Government; but this was, to some extent, a source of their degradation, for their wild nature was exaggerated, and no pains were taken to amend their habits, extend their comforts, or improve their appearance. The appearance of this people is remarkable for the intensely wild expression of the features, by no means diminished by their bushy, matted, and discoloured hair, which from being never cut or cleaned, hangs down, and shades the face in a very disgusting manner. They are of moderate stature, seldom exceeding five feet five inches in height, but are well made, and full of activity. Their dress is the scantiest covering that can possibly be used, consisting of a small piece of cloth depending in front from a string tied round the loins, to which a small bag is frequently attached. They never till the soil, their food being confined to flesh and fish. Deer's-flesh they cut into long slices, and, after dressing it in the sun, cut a hollow in a tree, and putting a sufficient quantity of honey at one extremity, fill up the centre with flesh, and cover the exterior with clay. This is their reserve for times of scarcity. They have hardly any knowledge of numbers, and cannot count above five, and are wholly ignorant of the virtues of medicinal plants. They observe neither the rites of marriage nor burial, their dead being consigned to the wild beasts of the jungle. Without any regular religion, the Veddahs, like every other wild race, appear sensible of the existence of an invisible and superior Power, which exhibits its influence by undefined terrors,—hence their belief in and worship of evil spirits. They also make offerings to the shades of departed ancestors, and to figures temporarily prepared to represent the controlling spirit of some planet which they believe to exercise an influence over their fate. It is probable that the country now occupied by this people is daily becoming narrowed by the extension of pastoral operations on the part of the Moorish and Tamul population in the eastern province, no less than by the cocoa-nut planter on the coast. Thenceforth there is a special mission for the friends of humanity.

ROYAL GEOGRAPHICAL SOCIETY, JUNE 25.

Captain SMYTH, R.N., President, in the Chair.

Sir Wm. Kay, Bart., and Edward Gordon, Esq., M.A., were elected Fellows of the Society.

Papers read.—1. "A proposal for the Construction of Maps upon the walls of the Corridors and Committee-rooms of the New Houses of Parliament," by Mr. Saxe Bannister, with remarks upon the subject by Mr. G. Bellas Greenough V.P.R.G.S. 2. "On Abila and the district of Abilene, near Mount Lebanon," by Mr. J. Hogg, F.R.S., Hon. Sec. 3. "Notes on the Physical Geography of Palestine," by Col. Von Wildenbruch. 1. Mr. Bannister proposes the construction of maps on a large scale as useful decorations to the New Palace at Westminster, and similar to those in *the Gallery of Geography of the Vatican*. One series of maps would present to the eye pictures of the whole globe—the forests of the Canadas in contrast to the houses and the harvests so rapidly thinning them—the fisheries of Iceland, Greenland—the fur regions of Hudson's Bay, and the tales of lost, as well as the tract of successful, explorers of the frozen North—the West India Isles—the free, peaceful, and Christian settlements of Western Africa, in contrast with its manshuts and its slave-marts—the sheep-walk and the mission-house, so rapidly driving back barbarism far into South Africa—the mines and stock-stations already pushed deep into the Australias—the varied works of nature and of man in New Zealand, in Ceylon, in India, in the Asiatic Archipelago, in the islands of the Southern Ocean, and in China. To these scenes of British enterprize would be added correct delineations of the rest of the globe, with each tribe and people distinctly characterized, and with the traces of great events, now visible in monuments or in ruins, correctly displayed to the eye. These maps drawn according to the best resources of modern science, should be on the largest possible scale, and uniform in magnitude. In addition to such maps of the land, there should be carefully prepared a collection of marine maps—not mere charts, but more complete even than those already suggested by Humboldt, for the shallows, the depths, the currents and trades of the ocean. Another series would form a history of Geographical discovery. A third would include the representation of the elements of intelligence found in the rude Geographical designs of the Esquimaux, the Indian, and the native of Australia, to guide the colonist to rich pastures, to relieve the explorer in his perplexity, and sometimes to warn the civilized man that even the savage understands his territorial rights.

Mr. Greenough would prefer, to the series of maps suggested by Mr. Bannister, a series of cartographic compositions. The physical map of Berghaus might be taken as a rude type of this desideratum, be more diversified in character and subject, enlarged in scale, and wrought up to a degree of excellence which an alliance of art, science, and literature can alone produce. It would be desirable, also, to have two Georamas,—the one for inanimate nature, the other for man in his several relations, and for the changes which the surface of the globe has undergone under his operations. An empire over which the sun never sets requires of its rulers, and in a minor degree of its people, a familiar acquaintance with the entire globe. The affairs of our forty-three colonies are administered at home by a staff so small, that, on an average, two clerks are all that can be spared for each; and surely the labours of these officials should be eased, by placing at their disposal the readiest means of acquiring standard information; nor does it appear less expedient that Members of Parliament should have distinct ideas upon those respective colonies whose interests and capabilities are often mainly dependent on geographical position and local considerations, and in respect to which they may be at any time called, upon a short notice, to assent to or dissent from complicated legislative enactments.

We much regret that space will not allow us to give our readers more than a brief analysis of this very important communication.

DR. GREGORY, Physician to the London Small Pox and Vaccination Hospital, has removed his residence from 31, Weymouth-street, Portland-place, to 6, Camden-square, Camden New Town.

TO SUBSCRIBERS.

The remainder of the Index, and the Title to Vol. XIX., will be given in our next Number. Subscribers in want of any of the back Numbers are recommended to complete their sets.

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THE MEDICAL TIMES.

SATURDAY, JULY 7, 1849.

In the First Number of a New Volume, it will not, perhaps, be thought out of place by the majority of our readers that we should take a brief retrospect of our editorial labours, adverting also to the provision we have made to secure and maintain our position amongst the medical periodicals of the British Empire.

In a Journal so extensively circulated as the *Medical Times*, it was necessary, so far as possible, to suppy the wants and meet the wishes of a large number of the different orders which compose the Profession. Our strenuous endeavours have been to effect this; and we appeal with confidence to our last Volume, to prove that no department of medical science has been neglected, while we have unceasingly advocated those great principles which are necessary to the general welfare and increased usefulness of our brethren.

The Lectures which we have published—if we regard the Professors by whom they were delivered—the depth of scientific research which they display—their variety and adaptation to the present wants of the Profession—are unparalleled in the history of hebdomadal medical Journalism—embracing as they do, the excellent discourses of Mr. Macilwain, on "Fever," which have excited the greatest attention of the Profession both in this country and the United States. The Gulstonian Lectures, delivered at the Royal College of Physicians, by Dr. Gull, whose talents received a well-merited compliment, when he was selected by the members of the most ancient, and one of the most learned medical Corporations of this kingdom. In Psychology, the Croonian Lectures, delivered at the same College by Dr. Conolly, one of the first authorities in Europe in this department of science. In Materia Medica, the interesting and instructive Lectures delivered before the same learned Corporation by the celebrated Dr. Golding Bird. In Surgery, Lectures by the veteran Mr. Guthrie, whose experience in military surgery is not surpassed. On Physiology, the Lectures of the first comparative anatomist in Europe, the learned Professor Owen, on the "Generation and Development of the Invertebrated Animals." These masterly Discourses, when delivered at the College of Surgeons, elicited the warmest approbation from the distinguished audience. To these may be added the elegant and scientific Lectures

"On the processes of Repair and Reproduction after Injuries," delivered also at the College by Professor Paget; and we have further been enabled to present to our readers Clinical Lectures on various important subjects, from some of the first physicians and surgeons in our metropolis.

In Ethnology we have presented to our readers the profound researches of Dr. Knox, who has, at length, and in his own peculiar style, discussed the all-important question of the "Races of Men." In medicine, we have given the erudite Lectures of Mr. Ross, on "Asiatic Cholera"—a subject of the highest importance at the present moment, and which has drawn from Dr. Turley a series of letters on the saline method of treatment of that disease by Dr. Stevens, whose success has been most remarkable.

The original contributions to the Journal have been from some of the principal Medical and Surgical Practitioners in Great Britain and Ireland, and contain a large amount of valuable experience and practice.

In the Hospital Reports will be found well-selected cases from the London, Provincial, and Irish Medical Institutions.

The proceedings of the Royal Medical and Chirurgical Society, which embraces the *élite* of the Profession, have been regularly given, and the discussions on the various papers read at the meetings reported at length.

In our Editorial Articles, we have not failed to direct the attention of our readers to the higher branches of Physiology, and we have advocated the rights and privileges of the members of the Profession. The injustice to our brethren in the Army and Navy, and to those holding Poor-law medical appointments, has been exposed and condemned; and we have endeavoured earnestly to impress upon the Government the necessity of speedily employing means to check the progress of quackery, so destructive to the lives and health of our fellow-creatures. It is also a source of great satisfaction to us to know that our Editorial Articles in reference to the District Lunatic Asylums in Ireland produced such an impression upon the Vice-regal Government, that it has determined to adopt means by which an efficient medical staff may be attached to every public hospital for the insane.

Whilst thus furnishing our readers with ample Home intelligence, the Foreign department has not been overlooked. In Paris, Berlin, Brussels, and Vienna, we have "our own Correspondents," who have forwarded to us almost weekly the most interesting Professional news from those places, and we are proud to say that our foreign department is unrivaled.

Our reviews of new books have been ample, faithful, and regular; and the Profession has thus been early informed of what has issued from the Press, and of the merits of the authors.

Our Correspondents' letters will be found both interesting and important; and, generally, the Medical News has been published as early as possible.

While the Volume we have just completed contains so much to interest and benefit the Professional reader, in that which we have now commenced we purpose using increased efforts to render the Journal as perfect as possible. Many Original Communications are in preparation for our pages, among which we may name—Dr. Jenner's paper on the Continued Fevers of this Country; a series of Microscopic Observations on Diseases, by an eminent Physician; an Analysis of the celebrated Dieffenbach's Work on Surgery, by Dr. Bushnan. The work of Mr. Wardrop will be completed. The Lectures of Dr. Golding Bird, and of Professors Owen and Paget, will be continued. New courses will be published on Ophthalmic Surgery, with illustrations by Mr. Haynes Walton, Surgeon to the London Ophthalmic Institution; by Dr. Letheby, of the London Hospital, on Toxicology and Medical Jurisprudence; the Lumleian Lectures delivered at the Royal College of Physicians by Dr. Todd; and Lectures on Surgery by Dr. Smith, of Dublin, the author of the celebrated work "On Fractures and Dislocations in the Vicinity of Joints." Some of the most eminent Physicians and Surgeons of Great Britain and Ireland have promised us valuable original communications. We have also made arrangements by which a regular series of Hospital Reports, both British and Foreign, will be given, and our Foreign Correspondents will continue to furnish us weekly with Articles on the progress of science abroad. During the ensuing season, Reports from the different Medical Societies will be published; and in the other departments of the Journal no effort will be spared to give it the highest position which it is possible for a Medical periodical to attain.

PHYSIOLOGY AND MEDICINE.

It cannot escape the observation of even a superficial observer, that, as human science advances, important relations are discovered to exist between inquiries which appeared, at first, to be altogether distinct and isolated. Such inquiries may have commenced at the opposite poles, and may have reference to processes which are apparently altogether unconnected; they may be conducted within the limits of a pin's point, or may range through the boundlessness of space; they may seek to penetrate into the most subtle molecular changes, or may attempt to determine the movement of stupendous planetary masses. But, sooner or later, the hidden links are brought out; the points of mutual contact and impression are elicited; a grand connecting chain is found to bind together all material knowledge; from the most infinite variety springs the presiding unity, and the varied and innumerable phases of material changes shape themselves into the vast generalization of the "Kosmos."

As we penetrate thus into the depths of science, we find each subject partially losing its individuality, receiving impressions more or less profound from kindred inquiries, and imparting to them, in return, something of its own nature. The Geologist thus, after a time, receives aid from the Electrician; the Chemist is led insensibly into the recesses of organized life; and the Astronomer, in recording the revolutions of our planet through space, records the phenomena which affect the health and life of its inhabitants. Throughout nature, we find no isolation and no independence; all phenomena act and re-act mutually on each other. There are many centres of force, but there is none of them whose radii do not reach to the circumference and utmost limit of the material world.

This "connexion of the sciences" becomes evident only after a certain progress has been made. It is not at once we learn that the laws which rule the movements of the planets govern the fall of the apple; or that the electricity which rends the oak may also mould the dew-drop. For the most part, inquiries begin in distinct points, and appear, for a long time, to be isolated and unconnected; then gradually, as their boundaries enlarge, they come within the sphere of mutual influence and reciprocal action.

In this way, ages ago, and while Physiology was as yet unborn, Medicine had attained a considerable development. It was built on its individual basis, and was comparatively unaffected by its cognate sciences. But this is the case no longer. Empirical medicine has lost its distinctive characters, and the Physiology of Health is becoming amalgamated with the Physiology of Disease. In some former articles on this subject, we alluded to this fact, and to the profound impression which the practical part of our art is receiving from the Physiology of the present day. It is in vain to deny the reality of this influence; it would be fruitless to attempt to conceal it. Let us accept it as a fact, examine into its extent, and attempt to estimate its further progress.

Empirical Medicine is independent altogether of Physiology. Hippocrates, Avicenna, Aretæus, or Rhazes did not the less record the beatings of the pulse, because they were ignorant of the circulation of the blood. This was a physiological fact which at once rendered clear much of what had previously been but vague surmise. We have now become so accustomed to Harvey's great discovery, that we forget it is not intrinsically a part of Empirical Medicine, although being true, no sooner was it proclaimed, than it united itself indissolubly with Medicine, the facts of which it helped to explain and correct.

We might take up this subject from the commencement, did not its extent utterly defy our limits. To trace the gradual progress of true rationalism must not be our aim; we must content ourselves with considering what is the product of our own time, and the distinguishing characteristic of this period of science.

Perhaps the three most special bonds of union which have arisen in the present day between Physiology and Medicine, are derived from the investigations into the nervous system, from the inquiries into the origin of the tissues, in which has originated the beautiful theory of Cytogenesis, and from the researches into the molecular chemical changes of the living body.

It is not too much to say, that, without the pure physiological investigations into the functions of the nervous system, experience could never have unraveled the infinite perplexities which surround the study of the diseases of this portion of the frame. Empirical medicine, in order even to record its facts precisely, must have created a rude Physiology, and have deduced from morbid conditions an estimate of

the normal functions of the several parts of the nervous centres. Even now, much remains dark and obscure; but strike out, this moment, our knowledge of the functions of the nerves, of the true spinal cord acting independently of volition, of the various commissural interlacements of the encephalon, the cord and its offshoots, and this darkness and obscurity would be increased tenfold. Abandon the clue which the beautiful researches of the modern Neurologists have given as a guide through the labyrinth, and the best recorded case of nervous disease becomes a series of meaningless facts, devoid of significance, because deprived of the light which alone can reveal their intimate connexion. And, as Physiology has done so much for Medicine in this department, so now the observations of the Physician are adding daily to the facts of Physiology, giving, as it were, light to that from which again light is reflected upon it. And daily we have fresh evidence, that the many curious phenomena presented by diseases of the nervous system are all shortly to find their appropriate places, and to be arranged under comprehensive laws.

The same remarks apply to the microscopic investigations into minute anatomy. How evident it is that physiological investigation must determine all normal forms of growth, before the Physician can inquire into the abnormal, or can even rightly say what is abnormal. Here empirical medicine must always be imperfect. Of what limited use have been the innumerable treatises on Cancer which were published in the first forty years of the present century! Cancer COULD NOT be investigated until we were able to apply to it the tests which should compel it to reveal its origin, the mode of its increase, the peculiarity of its manifestation. Microscopic Anatomy and the chemistry of molecular matter, have, within the last twenty years, done more to indicate to us the true nature of Cancer, than the observations of all the Physicians since the time of Galen. So deeply do we feel the importance of minute Anatomy to practical Medicine, that we have made special arrangements to bring under the notice of our readers the fullest information on this subject.

And again, in like manner, Organic Chemistry is daily becoming more and more medical. Medicine is daily becoming more and more chemical. But as yet the rich mine has hardly been opened; we have not yet discovered more than a few of the surface veins, and even these may have led us away from the main deposit. But the facts, we already know, have proved to us the richness of the soil which produced them. Let us adduce one of the simplest and easiest which occurs to us. The determination of the characters of albumen, and its habitat in the body, are pure chemico-physiological facts. But when albumen appears in the urine, and is chemically recognised, this fact at once appertains to practical medicine,—and what an important fact it is, we need not indicate. We need only say, that it is hardly conceivable how, without a knowledge of the series of phenomena included under the comprehensive term of albuminuria, the older Physicians could have had any true conception of a most extensive and common class of diseases.

But we must reserve any further remarks on this head for another opportunity. The subject is too extensive to admit of any but a superficial survey; even this, however, will not be without abundant fruits.

NEW MEDICAL CURRICULA.

THE authorities of the College of Surgeons and of Apothecaries' Hall have just published an amended curriculum of study, which will be required of all those whose attendance on Lectures shall commence on and after the 1st of October, 1849. The number and length of the Sessions remain as heretofore.

To refer to the several chief alterations made, the first is the transference of the course of Lectures on Materia Medica from the first winter to the first summer session,—a manifest improvement, and one the adoption of which has oftentimes been urged by several valid arguments. The labours of the student, during his first session, are, therefore, now much lightened; instead of having to attend, as under the old two-year course of study, to some five or six different subjects, he has but to divide his time and attention among the three subjects—Chemistry, Anatomy, and Physiology. But he is made to work harder during his first summer session; the amount of labour being now more equally distributed over the academical year, for, not only is there tacked on to the course of Botany (the only one hitherto insisted on in the first summer session) that of Materia Medica, but the Lectures on Midwifery are also appended. Further, the regulations of the College here chime in, making it necessary that the student attend, during his first summer, the surgical practice of his hospital. And it is to be observed, that it is on the requirement, that the Lectures on Materia Medica and Midwifery be attended during the summer, that the College regulations have been modified and made to coincide with those of the Hall.

The summer prospects of the Medical Student are hence much blighted: he can no longer date upon the leisure of the long summer days, and busy his mind with concerting plans for enjoyment when the short hour of the Botanical Lecture is over. No! what with three courses of Lectures and Hospital Practice, his time will be otherwise occupied.

But, as a set-off against this dark side of the picture, the student must bear in mind, that his winter labours have been lightened, that Materia Medica will no longer perplex him at the outset of his student's life, when as yet ignorant of the collateral sciences, Chemistry and Botany, which of themselves constitute its chief part, and that the call to attendance on Midwifery Lectures will not interrupt him from his engagements in the dissecting room and hospital during his second winter's study.

Lectures on Midwifery, again, form part of the second summer session; and during this period, likewise, attention is to be paid to Practical Chemistry, not nominally, but in fact, for the regulation remarks, that "by practical chemistry is intended a specific course of instruction in the laboratory, with an opportunity of personal manipulation in the ordinary processes of chemistry, and of acquiring a knowledge of the various re-agents for poisons."

The advantage of being enabled to pass the Latin Examination at Apothecaries' Hall, antecedently to the final general examination, is again extended to students when they have completed two winter sessions of their Medical studies, and not, as formerly, at any period subsequently to their first registration.

The only remaining innovation in the regulations of former years to be enumerated, is one introduced by the Council of the College of Surgeons, which evinces a spirit of liberality towards our Colonial Schools, and those individuals, now becoming numerous, who receive part of their Medical education at them. It is a measure, indeed, calculated to sustain the influence of the College in our Colonies, and to preserve them from the inroads of unqualified, or but partially qualified, Medical men.

It enacts, that "Candidates who shall have attended at recognised Colonial Hospitals and Schools, the Medical and Surgical practice and the several Courses of Lectures, with the demonstrations and dissections required by the foregoing regulations, will be admitted for examination upon producing certificates of such attendance, together with certificates of having attended in London, during one winter session, the surgical practice of a recognised hospital, and Lectures on Anatomy, Physiology, and Surgery, with demonstrations and dissections;" and that the recognition of Colonial Hospitals and Schools be governed by the same regulations as those in the provincial towns of England.

The several alterations in the prescribed course of Medical study above detailed, are, in our opinion, in the right direction, calculated to benefit the student, and to secure a better attention to the more important ones—viz., Hospital Practice and Practical Anatomy. For his mind will not be so distracted by the multitude of Lectures he is called upon to attend during his winter Sessions, as happened under the late regulations, when, if a Student desired to be conscientious in attending the prescribed number of Lectures, it entailed on him the necessity of neglecting the dissecting-room and hospital.

But, by the way, we ought to have observed, that the governing bodies have ceased to specify the number of Lectures incumbent upon the several Lecturers to deliver in their respective courses. This, again, is an important feature; and we hope the Teachers on some subjects will take advantage of it to abridge the number of their Lectures, and thus save the Students the toil of attending so many hundred in a season, as they have hitherto been called upon to do. For it is generally admitted that little real good is to be gained by several of the systematic courses prescribed. On the other hand, we are glad to see Clinical Medicine and Morbid Anatomy put more prominently forward in the scheme of study of the Apothecaries' Company; and we hope those important topics will henceforward not meet with the neglect they have hitherto experienced, but be really and practically made integral parts of Hospital instruction.

MEDICAL INCOMES AND THE "TIMES" NEWSPAPER.

The *Times* newspaper, in a late article on the amount of the Income-tax, infers that the members of the Medical Profession have, with others,

fraudulently concealed the amount of their incomes. Anything which concerns the honour of our brethren is a matter of great interest and importance. The charge creates general indignation; for bad as taxes are, dishonesty is worse. The accusation, which few can have failed to notice, refers to the Income-tax Schedule D, under which the profits derived from professions, occupations, and trades, are required to be entered. Unfortunately, the Medical and the other learned professions, are mixed up in the returns with persons engaged in every kind of profitable vocation throughout Great Britain. And if the professional classes, whose characters constitute for the most part their stock in trade, feel confident, as we trust they do, that the charge does not justly lie against them in any such degree as to affect the general mass, they would do well to unite in getting the particulars of their dealings with the Income-tax Commissioners stated separately in any future returns, like those lately made to the House of Commons. As regards the Medical Profession, we are satisfied that the charge is groundless. Indeed, we even doubt if it applies to any class. The leading journal has not acted with ordinary fairness towards the accused parties. It judges the case without taking the trouble to ascertain the facts. We do not pretend to say that there may not be many persons in Britain, deriving income from a vocation, who have made no return at all; but looking to the aggregate of the returns under Schedule D, and comparing that with the calculated total of the incomes, as far as indicated, we think there is but small ground for the charge of fraudulent concealment anywhere. The writer in the *Times* states the number of persons giving returns under this schedule, namely, nearly 150,000 (147,659), but he has not been diligent enough to cast up the corresponding amount of income. On a fair calculation it is seventy millions—that is, something short of 148,000 persons engaged in professions and occupations return an annual income of seventy millions. And after a deduction on account of incomes below 150*l*., there remain nearly 113,000 persons taxed on an annual income of sixty-six millions—a sum equivalent to an average of not much less than six hundred pounds annually to each, the Income-tax on which is not much below two millions, or considerably above a third part of the total proceeds of that tax. It is a fact to be remembered, that nearly two millions annually are deducted from the hard-earned wages of those who labour, not with their hands, but with their heads. But the classes of the community referred to, and particularly the Professional classes, are far from being able to live as they do, and to keep up that show of wealth and comfort which appears on the surface from the mere wages of their labour. In so far as there is the reality of that wealth and comfort, it is, in a very great degree, dependent on their being entitled to draw a part, and often a great part, of their expenditure from lands, houses, shares of stocks, &c., the proceeds of which come to them already diminished by the shears of the tax-gatherer. Thus, the writer in the *Times* has fallen into error from two causes: first, by taking the mere *prima facie* view of the case, and neglecting to make an exact estimate, from the table in its columns, of the actual proportion which the apparently smal number of comfortable incomes derived from Professions, occupations, &c., bears to the aggregate of incomes charged under the tax in question; and, secondly, by omitting to take into account how many of the class giving returns under Schedule D, are possessed of means yielding part of their income, but charged under other Schedules.

The *Times* takes the whole number of the Medical Profession in Great Britain at upwards of twenty thousand, or at about one-seventh of the persons assessed under Schedule D. And how well off would our brethren account them selves to be, if they drew annually from the country ten millions, that is, one-seventh of the seventy millions which the *Times* assumes to be so paltry a sum to represent "the aggregate earnings of the Professional and mercantile classes of Great Britain! This sum would give 500*l*. a-year to each of the twenty thousand. Strike off the twelve millions which represent the larger incomes, such as medical earnings hardly reach, and there will still remain enough to afford an average of nearly 414*l*. annually to each of the twenty thousand. Even this average is far beyond what the Medical Profession can command. And this view, so it appears to us, settles the question as regards the groundlessness of the charge against our Medical brethren.

MEDICO-LEGAL INVESTIGATIONS IN SCOTLAND.

An incident occurred last week in the Edinburgh Infirmary which deeply touches the rights of our Scottish brethren, though, if such grievance could take place in England, it would be under a different form. A boy died, after having been ten days in the Infirmary, under the care of one of the ordinary Physicians. The case was one of the greatest interest—dropsy, involving disease of the heart, brain, and kidneys. The inspection next day was looked forward to with much curiosity by Physician, Pathologist, and pupils. In the interval between the death and the usual time for inspection, two strange Surgeons arrived at the Infirmary with a warrant from the Sheriff, and proceeded to examine the body with closed doors, having made no communication to any of the Medical Men before concerned in the case. Great was the disappointment when this act of authority was announced next morning; but, on the supposed relicts of the body, in a kind of despair, being brought to the table, it was found that nothing more had been done than to open the chest, make a few cuts in the lungs, without taking them out, and carry away the heart. Great wonder arose as to what the Sheriff could mean by sending a warrant to steal a poor boy's heart; and the only rational conjecture that has been made to this hour is, that a rumour had got up, that cruelty under the Poor-law had broken the boy's heart before he was brought to the Infirmary, and that the Sheriff wished to convince himself of the contrary by ocular inspection. The heart, on being demanded, was sent back two days after.

Now, this is a very absurd proceeding; and we cannot think that any Scotch authority, great or small, could knowingly countenance such manifest discourtesy, unless the case had been one of the most urgent necessity. What keeps up such occurrences as this is neither law nor reason, but an extraordinary notion, that the examination of a dead body for judicial purposes should be conducted with no one present but those named in the warrant. On the contrary, no two Medical men should ever take on themselves the responsibility of examining a body without medical witnesses, if such be within call—for which many reasons will at once suggest themselves. What though authorities forbid it, there is no law to prevent such witnesses being taken. Medical men should insist on the right and necessity of having such witnesses, in case their report be called in question. It is not long, however, since one of the Scotch Judges, with less wisdom than becomes the Bench, reprimanded an accoucheur for having taken with him, to such an inspection, a very eminent brother, whose name was not in the warrant. We fear such reprimands must be borne till reason overcomes prejudice.

THE CHOLERA IN BLACKFRIARS.

Some six months ago, when the Commissioners of Sewers met to elect an officer of health for the City, some of the candidates were "snubbed," for having made statements reflecting upon the Drainage of London within the walls. Even Mr. Simon was in danger of being rejected, in consequence of a rumour that he had said something unfavourable to the City sewerage. An energetic denial, however, appeased the wrath of the Commissioners, and he was fortunate enough to obtain a majority of their votes. Since then the Asiatic pestilence has been carrying off its victims in different parts of the Metropolis; but it was satisfactorily announced, from time to time, that there was "no cholera in the City." Within the last fortnight, however, the disease has made its appearance in the parish of St. Ann, Blackfriars, a neighbourhood where it committed great ravages seventeen years ago. It has now been discovered that the sewerage here is anything but perfect, and that many of the houses in the bye-streets and lanes are in a most filthy condition. It appears, that, in Water-lane, within a distance of 500 feet, there are twelve gulley holes and six air vents in a direct line, besides others at the end of Printinghouse-lane and Playhouse-yard,—that these gratings, not being properly trapped, allow stench and steam to escape to an extent which renders the whole neighbourhood infectious. The houses of the poor in this locality are now found to be crowded with human beings, and from the wretched state of the dwellings, and the filthy habits of the inmates, fatal diseases are engendered.

It is singular that these discoveries were not made before Cholera invaded the place. In Water-lane we have the Hall of an English Medical Corporation; in Printing-house-square, the Establishment of the Daily *Times*. It is remarkable that the Corporation Medical and the Corporation Typographical should have remained ignorant of this state

of things till cholera brought it to their knowledge. We suppose, however, that th aroma of drugs prevented the apothecarie from scenting the sewers, and that the force o habit so far acted upon the olfactories of th officials connected with the *Times* office, tha they were only capable of smelling from afa the pestiferous exhalations of stagnant ditche and ill-constructed sewers. We have heard o certain individuals who have been "long-sighted" and "long-winded," but not till now of any having been "long-scented." The olfactories of the *Times*, however, appear to be incapable of recognizing the strongest emanations close under its nose, while they are acutely sensible of stenches a hundred leagues off.

We hope, that now the nose of Jupiter Omnipotens has been directed to the nuisances which surround his Palace, he will use his power to have them removed. We would remind him that, in a passage called Church-entry there is a grave-yard gorged with putrefying animal matter; that the surface of this Golgotha is three or four feet above the level of the footway; and that the back windows of a number of houses, said to belong to the Apothecaries' Company, open directly upon this yard; that the houses themselves are in a most wretched condition, and are crammed with lodgers. The frontage of these dwellings is in Fleur de lis Court, a *cul de sac* into which the air and light of heaven obtain but a very limited admission. We have strong doubts whether this Court is favoured with a sewer, and we believe the cloacæ are cess-pools in the cellars, from which a most offensive effluvia continually arises. We trust that some one from the *Times* office will make a survey of these premises, and that Mr. Simon and Mr. G. A. Walker will also visit the place. Unless somethingbe immediately done the inhabitants will be decimated with fever or cholera.

The suggestions, also, of Mr. Simon to the Court of Sewers ought to be forthwith acted upon. They are as follow:—

1. The organisation of a preventive medical staff, having for its duty to inquire into the existence of premonitory symptoms of cholera among all that poor and ignorant population who would be uninformed of the great importance of checking such symptoms.
2. Arrangements for the relief and reception of the sick, in the event of their number becoming larger than the existing establishments could readily and certainly accommodate.
3. Arrangements for the relief of our crowded houses or infected localities, and for the deportation of those persons, particularly children, who may be showing preliminary symptoms of cholera, or may otherwise be drooping in health from exposure to injurious local influences not immediately removable.

DR. STEVENS' SALINE TREATMENT OF CHOLERA.

A CORRESPONDENT has lately addressed to us a few remarks respecting the favourable opinion which we have expressed of Dr. STEVENS' Saline Treatment of Cholera. Our Correspondent takes two special objections to our opinion, 1st, that the evidence in favour of the practice is insufficient; 2nd, that saline medicines are not taken as such into the circulation, but undergo transformation in the stomach. With regard to the first objection, the estimate of this value of the saline over all other means of treating cholera, must be formed by each man for himself. We have placed before our readers much valuable testimony on the point; testimony which has had great weight with us, and which has led us to form a most favourable opinion of the success of the practice. But, of course, we do not desire to bind our readers to our opinions, and we only hold our opinion provisionally, until future observation shall confirm or disprove it. As to the second objection, we confess we do not understand our Correspondent. Whether a saline medicine shall undergo decomposition in the stomach or in the tissues of organs to which it is carried by the torrent of the circulation, depends upon the nature of that medicine. Some are decomposed; others can be detected passing off unchanged through the medium of the skin or the kidneys. In the saline treatment of cholera, the object is to supply to the blood certain salts, which are presumed to be deficient in that fluid, such as chloride of sodium, and phosphates of soda or potash. These salts, as far as we know, are absorbed at once, and unchanged, into the circulation, and then, it is presumed, exert on the organic principles of the blood a chemical influence similar to that exerted by the normal salts which had been thrown out from the system under the influence of the disease.

THE COLLEGE ELECTION.

A very numerous attendance of Fellows took place on Thursday afternoon, in the College Theatre we should say as many as 200 were present), for the purpose of electing three Members of Council. The proceedings commenced, on the President taking the Chair, by stating the objects of the meeting, and calling on the Secretary to read those portions of the Charter and Bye-laws having reference to the Elections, which having been done, the Secretary read the names of the various Candidates from the chronological list, and, on coming to Mr. Hodgson, late of Birmingham, Mr. Partridge proposed, and Messrs. Soden and Bowman seconded, that gentleman as a Member of Council. M Luke, of the London Hospital, and retiring member of the Council, the next name n order, was proposed by Mr. Macmurdo of St. Thomas's Hospital, and seconded by Messrs. Kingdon and Paget. On reading the name of Mr. Thomas Wormald, of St. Bartholomew's Hospital, Mr. Guthrie, the former President of the College, nstantly rose, and in a very significant manner, and amidst great silence, proposed that gentleman as a very fit and proper person to occupy a seat in the Council, a proposition that was immediately seconded by Professors Owen and Paget. The names of the candidates having been attached to the balloting boxes, the voting commenced; and, at the conclusion, the President stated the result to be— Mr. Hodgson, ayes, 153; noes, 23. Mr. Luke, ayes, 162; noes, 15. Mr. Wormald, ayes, 133; noes, 44. Thus, by a majority of 89, has this gentleman so signally defeated his enemies.

As indicative of the feelings of the "*Fellows*" towards the "John Hunter Club," we may mention that many of them attended from Birmingham, Manchester, Exeter, Barton, &c.

It was stated, that the "Club" consists of forty eight members; so it would appear that these very exclusive gentlemen not only are devoid of interest, but entertain opinions totally at variance with the great body of the Profession.

REVIEWS.

Parturition, and the Principles and Practice of Obstetrics. By W. TYLER SMITH, M.D. London. Lecturer on Obstetrics in the Hunterian School of Medicine. Pp. 395. London: Churchill, 1849.

Dr. Tyler Smith is a clever man. He has published a very fair volume on scrofula, and, if report does not deceive us, he has written many an able "leading article;" and now, taking as his basis the views of Dr. Marshall Hall, to whom his book is dedicated, he has brought out a very amusing, and, to a certain degree, instructive volume, on "Parturition, and the Principles and Practice of Obstetrics." But it is not a volume which will displace the more practical works of Rigby and Ramsbottom; and the lectures which it contains—twenty-six in number—must be regarded as physiological commentaries on so many important points in obstetric science, rather than as constituting a treatise on practical midwifery.

The introductory lecture is principally devoted to the differences of obstetric practice in this country and in France, which Dr. Smith attributes more to religion than to the social states of the two countries. Although the lecture concludes with the laudable observation, page 11, that "we must not let even electicism steal away our *principles* and springs of action, which must be held to without bigotry but firmly," we can hardly feel that our Author acts up to this doctrine, when we find him telling us, in an earlier part, page 7, that "freedom of examination, though productive of some good in a diagnostic point of view, is carried to such an extent of indecency in the French Hospitals, as to make medicine the ally of immodesty and demoralization, rather than of decency and of virtue;" and adding, that "it would be difficult to say whether the indecent and public exposure of their women inflicted a deeper wound on the modesty of one sex or the morality of the other."

The sixth lecture contains a very good account of the ovular theory of menstruation; but we must enter a very strong protest against the introduction, in elementary works such as Mr. Churchill's Manuals are supposed to be, of such passages as the following. At page 83, Dr. Smith states, "the theory of menstruation was very much ridiculed when first propounded by Dr. Power. Its Author was treated as a visionary, and I have heard he acquired among accoucheurs the name of 'Menstruation Power.' His little book was severely scourged by the critics of that time; but the event is another proof, that whenever ideas of sterling worth are put forth, the world, even if it do not at once appreciate their value, is sure to find them 'after many days.' Dr. Power himself seems to have been little careful about the result; he never appears to have discussed the matter, or even resorted to experiments; but to have calmly thrown his ingot of gold into the stream of time, there to be refined, instead of casting it into the burning fiery furnace of controversy, for that more rapid assay which original minds sometimes covet. Very recently I paid a visit to him, at his residence at Westminster, *and I am proud to say, he was much interested in my own researches in the physiology of Parturition.* I found him amusing himself with painting and composition. He showed me some geological landscapes, if I may so term them, from his pencil, the still-life and figures of which were composed from the study of geological strata and fossil remains; icthyosauri, plesiosauri, and other monsters basked, or pursued their prey, in scenes belonging to a primeval world. I mention this to show the original turn of the mind to which we owe the true theory of menstruation."

We regret that Dr. Smith should have penned this paragraph, and, in the sentence we have marked in italics, allowed his good sense to have fallen into abeyance, or, like Sebastian, "let fancy still his sense in Lethe steep." It would have been more seemly, if he had followed Dr. Power's example, and "calmly thrown his ingot in the stream of time." But there seems a sort of fatality among the "Marshall Hall and Robert Lee" school of physiologists, by which the besetting sins of those

two eminent men—failings which we are convinced have, in a great measure, been the cause of the opposition their views have experienced—seem, as a matter of necessity, to extend to their more immediate followers.

If Dr. Smith's volume did not contain much valuable matter on many physiological points, we should deem it a waste of time and labour to notice the serious faults with which it also abounds. Who can read the following sentence without regret? Who, ignorant of Dr. Smith's real physiological knowledge, will place confidence in his other statements, when he reads at page 117:—"The pains of natural labour are hard to bear, though of late they have been most cruelly exaggerated by interested parties; but they ennoble the sufferer morally, and, after the trial has passed, there comes the cry of her infant as a happy crown to the maternal martyrdom. . . . . On a former occasion I pointed out, that in women, to whom ether vapour had been administered during parturition, the sexual orgasm had been substituted for their natural pains—an exchange which women of modesty would far more shrink from, than the liveliest agony. Under chloroform, too, I have been informed of instances in which the lying-in-room has been defiled by the most painful and obscene conversation."

We are at a loss to understand to what "interested parties" Dr. Smith alludes; we can conceive none but the druggists who sell ether and chloroform, and we do not remember that any of these have "exaggerated" the pains of labour, or even described them; and as for the moral objections to the employment of anæsthetics in the lying-in room, we find that Mr. Gream (*Remarks on the Employment of Anæsthetic Agents in Midwifery, by G. T. Gream*, 1848) is the only accoucheur who can afford personal evidence regarding the aforesaid class of conversations. It would be interesting to ascertain if they were especially noted to have occurred in the confinements of the ladies to whom that gentleman afforded much relief by his "vaginal dilator," as described in his recent and very curious paper.

We should not have felt justified in recommending Dr. Smith's volume to our readers without pointing out some of its defects; but nevertheless we *do* recommend it; and we, therefore, hope to be included among the "candid persons," described in the Doctor's Preface, who are willing to admit that he has "both added to reflex physiology, and made extensive applications in practice, which had eluded previous observers."

On the Extraction of Teeth, with an Account of a New and much less Painful Mode of Operating. By Henry Gilbert, M.R.C.S.L.

We have much pleasure in directing the attention of the Medical Profession to this pamphlet. The subject of which it treats is of great importance. Every discovery that tends to diminish pain, is an invaluable boon to humanity, and it would be unjust to withhold this praise from the invention of Mr. Gilbert. We speak from a personal knowledge of its advantages, and have no reservation in the assertion, that it will ultimately supersede the clumsy, uncertain, acutely painful, and often dangerous means employed in the extraction of teeth. We do not wish it to be understood, that he renders the operation pleasurable. He deprives it, however, of much of the immediate and consequent suffering, almost inseparable from the use of the key and forceps, as at present used; and, in contemplating the simplicity and efficiency of his contrivance, the question forces itself on our consideration—Why was it not suggested before? This, in reference to any invention, is the highest compliment that can be paid to it. It is the involuntary approbation of common sense.

Mr. Gilbert, from a just appreciation of the value of his invention, and from a determination to carry it into effect, has sacrificed a large and lucrative practice, and we believe and hope wisely. The prejudices opposed to whatever is new, and the interests and reputations occasionally affected by it, may possibly, for a time, retard the acknowledgment of his scientific claims, and the usual reward which should ever accompany them; but he may rest assured that it can be only for a brief period.

The following is his description of the instrument and of its advantages:—

"My object was," he remarks, "to obtain a fixed fulcrum, external to the mouth, on which, during the extraction of the tooth, the instrument would rest, and thus obviate the difficulties and objections connected with the instruments in general use. The chair which I use is an ordinary easy chair, with a back that can be inclined to any angle, the top of which is semi-cylindrical, for the reception of, and to enable the operator to come close to the head of the sufferer. At the right hand side of this chair there is fixed a strong steel bar, or stem, on which, again, there is a socket capable of sliding on it, and of being fixed at any required height, by means of the set-screw, which, on being turned, presses the piece against the stem. The moveable bar, which is thus capable of being raised or lowered at will, holds another piece of steel, or arm, placed horizontally to the chair, which again holds a third piece of metal, the latter being the fulcrum on which the extracting instrument rests.

"The teeth are extracted by means of the ordinary forceps, adapted to the fulcrum, in the following manner:—The operator first causes the person to recline back in the chair, and adjusts the bearing, so that it will come between the jaws, (when a back tooth is to be extracted;) he then takes hold of the tooth with the forceps, which will rest on the bearing, if a lower tooth is to be extracted, and by moving the forceps upon the bearing as a fulcrum, he lifts the tooth out of the lower jaw. If the tooth is to be extracted from the upper jaw, the forceps are introduced below the bearing, and act so as to draw the tooth downwards out of the jaw."

The great advantages of this instrument over the present method of extraction are—

1. Impossibility of fracturing the jaw-bone.
2. The gums cannot be torn or lacerated.
3. The gums are not pressed upon by the instrument.
4. A large amount of pain is saved.
5. The great danger of breaking the diseased tooth avoided.
6. Little or no bleeding takes place.
7. The adjoining teeth cannot be injured.
8. The teeth are extracted perpendicularly, or in the line of their axis, the instrument being used entirely independent of the gums, teeth, or jaw.
9. The patient is able to masticate his food almost immediately after the operation.

Mr. Gilbert has also described a new form of claw to be used by the aid of the external fulcrum for the extraction of stumps.

Excellent as the pamphlet is, it has two faults we should like to see corrected—its size and price. What is intended for mankind at large—for the alleviation of human suffering, should not necessarily be small in bulk, but it is desirable that it should be cheap, so that the benefits it is calculated to confer may be brought readily within the reach of the many. We would, in fact, suggest to Mr. Gilbert the propriety of condensing the contents of the pamphlet, if not to one-fifth of its present size, at least to an extent that would enable him to reduce the price in that proportion—an alteration that would not be less advantageous to himself than the public.

Pathology of the Human Eye. By John Dalrymple, F.R.C.S. Fasciculus II. London: John Churchill. 1849.

Mr. Churchill's illustrated works are among the best that emanate from the Medical Press; and Mr. Dalrymple's illustrations of the Pathology of the Human Eye will take a high rank among the many books dedicated to the diseases of that important organ. We have not received the first part of the work before us; but, judging from the second, we are inclined to suppose it worthy of the highest praise. Part II. contains four plates—5 to 8—illustrative of nineteen varieties of eye disease. We have examples of warts, horns, syphilitic and malignant ulceration of the lids, diseases of the lachrymal apparatus, ecchymosis, œdema of the eyelids, vascular diseases of the eye, as conjunctivitis, and scrofulous ophthalmia. As regards the descriptive letter-press, we conceive it to be as accurate as the illustrative drawings; and, were the price less, we doubt not it would become as much in vogue among practitioners as Mackenzie's work on the same subject. We strongly recommend it; for, although the price is high, it is above price to the country practitioner, obliged, by the circumstances in which he is placed, to depend upon his own resources, and, in eye cases, to act often immediately, and that without the advice and assistance of the professed oculist.

DR. ARNOTT ON THE THERAPEUTIC AGENCY OF EXTREME COLD OR CONGELATIONS.

[To the Editor of the Medical Times.]

Sir,—In my little work on the remedial use of severe cold, which was noticed in the last number of the *Medical Times*, there is a deficiency or want of explicitness in the exposition of the subject, which a statement of the reviewer induces me to supply without delay. He says, that "from one to three minutes will be ordinarily sufficiently long to effect the congelation." The skin is congealed by the direct application of ice and salt generally in less than half a minute; but if the reviewer mean the period of congelation, it ought to be understood, that in headache, the disease principally treated of, I seldom keep the net containing the frigorific in contact with the skin many seconds longer than is necessary to cause congelation, or hardness and whiteness; it is usually shifted to another part almost immediately on this appearing, although I sometimes re-apply it to a portion of the skin, which has already been congealed, on the disappearance of the whiteness. In erysipelas the net may be moved to and fro, or the surface may be brushed by it, as it were, keeping the cold just one degree above what will cause congelation, in order to prevent the little smarting or sense of dragging which this effect produces. A stronger application would, doubtless, be often more efficient in headache, and render a repetition of congelation unnecessary; and it is not from fear of injuring the skin that I do not usually make it stronger; but I am unwilling in applying severe cold to so conspicuous a part as the forehead, which is the portion of the scalp usually congealed, to cause greater redness of the skin than what cannot be avoided. If the cold be applied for the short period mentioned, there is seldom any redness remaining after twenty-four hours. The application of congelation to the scalp for several minutes, as was lately made to the whole scalp, (and with excellent effect in a case of meningitis,) will produce a redness of several days' duration.

I may be permitted, before concluding the subject, to say a few words in vindication of my having attempted to explain the *modus operandi* of congelation. I at once admit the justness of the critic's observation on the hazard of preventing, in some cases, the employment of a remedy, by giving an explanation of its action which may be deemed a fallacy, and so prejudice a practitioner, who would otherwise apply it. On the other hand, unless the Practitioner considers a newly proposed remedy to be a rational remedy; or, in other words, unless he thinks it is likely to produce certain physiological changes which he may consider necessary for the cure; or unless it bear an analogy to other remedies which he acknowledges as such in analogous affections, he is not likely to employ it at all; but, on the contrary, to suppose that the proposer or inventor has, by wearing the distorting spectacles too often worn by inventors, himself been deceived. Now, I think, that the explanation I have advanced, which do not dive too far into the mysteries of the subject, will obtain general assent. That it will obtain universal assent it would be absurd to expect, considering the very unsettled state of opinion on the nature of inflammation, or the morbid condition of which congelation is the proposed remedy. But those who take other views of the matter may still find in congelations what is consonant to their notion of what is required. If, for instance, they think that there is too little action in the inflamed part, and that debility and obstruction constitute the principal morbid elements, they may be induced to try congelation from the idea that it may stimulate, and by its completely emptying the vessels (which the perfect whiteness produced manifestly shows it does) they may consider it a valuable deobstruent. In page 32 of my pamphlet on Cold, I have expressed the little importance I attach to reasonings on the *modus operandi* when com-

pared with the facts which I relate; and I feel a little surprised, after warning against the mischiefs of theory in my previously published Essay on Therapeutical Inquiry, and stating that almost the only useful purpose it has as yet served is to direct attention to valuable remedies, to find that I have incurred an imputation of endangering a good practice by a bad, or, at least, by a questionable theory.

These observations apply to the explanations which I have attempted of the action of congelation in suddenly subduing every inflammation that is accessible to it. Of its no less remarkable action in nervous affections, and in prurigo, impetigo, and other distressing diseases of the skin, I have offered no explanation; conceiving that the very imperfect means we now possess for remedying these affections, in which the natural tendency to cure is not so manifest as in inflammation, and the universally known benumbing quality of congelation, would be quite sufficient, so far as they are concerned, to induce an immediate trial of it.

I am, Sir,
Your most obedient servant,
James Arnott.

Brighton, June 29th, 1849.

[We are glad that our remarks have induced Dr. Arnott to state, a little more explicitly, his own mode of applying cold to the head; in order to avoid misunderstanding we used as nearly as possible his own words. We never entertained a doubt that Dr. Arnott supposed his explanation of the *modus operandi* of congelation very good, nor that he was convinced that his explanation would meet with general assent: propounders of theories are generally satisfied with the excellence of their own reasoning: all we expressed a doubt concerning was, the satisfaction the Profession would derive from his explanation. How the action of a remedy in curing a disease is to be explained so as to obtain general assent, when opinion concerning the nature of that disease is confessedly in an unsettled state, we own our inability to comprehend.—Ed. *Medical Times.*]

THE WEATHER AND THE LEECH.

[To the Editor of the Medical Times.]

Sir,—In Hayley's "Life of Cowper," we find a letter addressed to Lady Hesketh, in which the poet acquaints Her Ladyship with this interesting fact, at the close of the epistle:—"Yesterday it thundered, last night it lightned, and at three this morning I saw the sky as red as a city in flames could have made it. I have a leech in a bottle that foretells all these prodigies and convulsions of nature. No, not as you will naturally conjecture, by articulate utterance of oracular notices, but by a variety of gesticulations which here I have not room to give an account of. Suffice it to say, that no change of the weather surprises him, and that, in point of the earliest and most accurate intelligence, he is worth all the barometers in the world. None of them all, indeed, can make the least pretence to foretell thunder, a species of sagacity of which he has given the most unequivocal evidence." Taking these few remarks as my text, you will find the following observations accurate, and, if you deem them worthy of a place in your Journal, I shall be obliged to you to have them inserted:—

1. If the weather proves serene and beautiful, the leech lies motionless at the bottom of the glass, rolled together in a spiral form.

2. If it rains, either before or after noon, it is found crept up to the top of its lodging, and there it remains until the weather is settled.

3. If we are to have wind, the poor prisoner gallops through its limpid habitation with amazing swiftness, and seldom rests till it begins to blow hard.

4. If a remarkable storm of thunder and rain is to succeed, for some days before it lodges almost continually without water, and discovers uncommon uneasiness, in violent throes and convulsive-like motions.

5. In the frost, as in the clear summer weather, it lies constantly at the bottom; and in snow, as in rainy weather, it pitches its dwelling upon the mouth of the phial.

6. Perhaps it may not be amiss to note, lest any of the curious should try the experiment, that the leech was kept in a common two-ounce phial about three-fourths filled with water, and covered with a bit of linen rag. In the summer, the water is changed once a week, and in the winter, once a fortnight. This is a weather-glass which may be purchased at a very trifling expense.

These observations have hitherto been confined to the weather; it has occurred to me, however, that epidemics, cholera, influenza, fevers, may be predicated by the instincts of this curiously sensitive creature; and I am now arranging a series of experiments, which will test the powers of my intelligent friend in so desirable a prognosis.

I do not pretend to offer any theory or explanation of the curious facts above stated; I only cast them upon the waters, in the hope that some naturalist with more leisure and ingenuity than myself, will perhaps, after many days, enlarge and apply them to some beneficial purpose; one suggestion only will I offer in explanation—Is it the electrical condition of the atmosphere that produces the curious habits in the leech?

I am, Sir, your obedient Servant,
William Hooper Attree,
Formerly House-Surgeon to the Middlesex Hospital.

9, New Cavendish-street, June 27, 1849.

MEDICAL REFORM.

[To the Editor of the Medical Times.]

Sir,—I quite agree with your suggestion as to the necessity of petitioning the Legislature to consider the question of medical reform, during the present session of Parliament; and I think, with your correspondent, that a Petition emanating from yourself and a copy published in the *Medical Times*, would be gratefully acknowledged by the whole Profession and, regardless of minor differences, would receive the signatures of every one anxious to have this sickening subject set at rest. It is the only thing left for us to do in the present state of the question for, much as any one might desire to forward the matter by his individual efforts, there are few who have sufficient confidence to put themselves forward by individually petitioning; and it is easy to understand the difficulties which exist, in limited localities, where there are few medical men, and those, unfortunately, too often not agreed amongst themselves, in obtaining signatures to a Petition whose object they are unanimous in wishing to see carried out.

I shall only be too happy to forward my own name to be appended to such a Petition, and I much mistake the feeling of the Profession, if a large proportion of its members are not glad to avail themselves of the like privilege.

I am, Sir, yours very respectfully,
A Zealous Reformer.

UNIVERSITY DEGREES.

[To the Editor of the Medical Times.]

Sir,—I beg to offer the following remarks on the British Universities which have the power to grant the degree of Doctor of Medicine:—

A great movement has taken place in our Profession, within the last five years, and one which, in my opinion, is much calculated to raise the character of the General Practitioner,—I mean the fact of a great number graduating in some University. The members of the Profession who have hitherto done so are those who, from want of the apprenticeship, are unable to go to the Apothecaries' Company for their license, and feel it desirable to possess some medical diploma, or those men who make it the stepping-stone to the license of the College of Physicians, and those who, though possessing the diplomas of both College and Hall, yet still are desirous to obtain the highest honours of their profession,—a less numerous body than the other two, but still, much to my satisfaction, steadily on the increase. Under such circumstances, a few remarks respecting the claims of the various Universities may be useful.

The Universities of Oxford and Cambridge are beyond the reach of the General Practitioner, by reason of the expense, time, and residence required to obtain their degrees. I will, therefore, dismiss them with the remark, that their degrees are most respectable and most honourable. The University of London takes its place next, in consequence of the difficulty of its examination; but this also is beyond the reach of the Practitioner, who has commenced practice since 1840 or 1841, from his being unable to spare time, if in at all extensive practice, to prepare for the numerous examinations from matriculation to the degree of M.D.; but I most highly recommend it to those gentlemen in practice before 1840, or who can spare time to go through the regular routine. Edinburgh comes next, merely because it is metropolitan; but the residence of twelve months which it requires, puts an effectual bar to the practitioner; but in that he has no loss. Its examination is not difficult, therefore its diploma is not held in high repute. As I heard an old practitioner remark, they appear to think that a man must know something of medicine after a residence of twelve months in Edinburgh. I think so too; but they should not take it for granted, and pass so many fools. The same remarks are applicable to Glasgow. I have known men of most inferior attainments, graduates of those two Colleges. Take away the necessity of residence, and continue the present examination, and they will sink below par. I come next to King's College, Aberdeen; though not quite so old as St. Andrew's, yet I take it first, in consequence of the known difficulty of its examination, particularly to students, or men not five years in practice. This University is open to practitioners of five years' standing; its diploma is next in respectability to that of the University of London; and, from what I know of some of its graduates, and the examination they underwent, I look upon it with high respect. I lastly come to St. Andrew's, but, though last, not least; I would prefer being a graduate of it, to either Edinburgh or Glasgow, as far as its examination is concerned. The Professors are all well-known men, and they have sent back many a man who would have passed Edinburgh or Glasgow.* On looking over the *Medical Directory*, I continually see the words Giessen, Erlangen, Heidelberg, &c. What could possibly induce gentlemen,—and some good names, too, amongst them,—to purchase degrees from these Universities? Can they imagine, that the Profession does not know how these diplomas are obtained, or that they can carry any weight with them? Sir, those would-be Doctors are beneath contempt. If men have not the ability to obtain, by fair examination, their diplomas from a British University, let them be content with the ordinary certificates of College and Hall, and not reduce to their own level the possessors of diplomas honourably obtained.

My principal object in writing these remarks is to give an impulse to the present movement. I perfectly agree with a friend, who says, we ought all to be Doctors. The College of Physicians do not like it. No, I should think not. Can I give a greater proof that it is for the benefit of the General Practitioner? The members of that College excel us only in name; let us destroy that superiority.

I am, Sir, with high esteem,
Your obedient Servant,
A Candidate for the Degree of M.D. at London University, and a M.R.C.S.

[We beg to inform our Correspondent that Heidelberg degrees are above price—they cannot be bought.—Ed. *Medical Times.*]

DR. INNIS ON SKIN DISEASES.

[To the Editor of the Medical Times.]

Sir,—I shall feel obliged, if you will allow me to correct an error which appears in the *Medical Times*, of the 23rd inst. I have not read the work of Dr. Innis, "The Skin in Health and Disease," but it appears the Author has, without acknowledgment, abstracted from Dr. Burgess's translation of M. Cazenave's work, a treatment recommended therein, viz., the employment of the vapour of sulphur and iodine in certain affections of the skin, ulcers, &c.

Now, Sir, this plagiarism involves a double petty larceny, for he has attempted to take from me a credit to which I am legitimately entitled, viz., of being the first to employ and demonstrate the high value of these agents in various intractable affections of the skin, ulcers, &c.; and he has also appropriated to himself, from the above-quoted work, the credit to which Dr. Burgess is, I conceive, entitled, for having taken the trouble to inform himself upon, and recommend very strongly, these invaluable remedial agents.

There is this difference, however, between the writers. Dr. Burgess acknowledged, so far back as the year 1842,(a) the source whence he derived his information; whilst Dr. Innis has, in the year 1849, forgotten, or thought it inexpedient, to do so.

A case of obstinate lepra, with long-standing ulcers of both legs, came under my care in November, 1837; another of phagedenic ulceration of the leg, in January, 1838. These were published in the *Lancet*; were subsequently translated and made the subject of editorial remarks in the *Gazette Médicale de Paris*, 1st Juillet, 1838. Drs. P. H. Green, Burgess, E. Johnson, and other medical friends, saw these and other cases whilst under my care. Subsequently, I took occasion to recommend the treatment in various

(a) Vide "Manual of Diseases of the Skin," from the French of MM. Cazenave and Schedel; with Notes and Additions by Thomas H. Burgess, M.D.

affections of the skin, in another publication of mine; and, finally, in 1848, I published a work, of which you did me the honour to speak in high terms in the *Medical Times*, of March last. Under these circumstances, whilst insisting on a priority of claim, which I am prepared to maintain against all comers, it may not be out of place to observe, that subsequent experience and observation, in a pretty extensive field, enables me to assure the Profession that they will, in many otherwise intractable affections, find this remedy a powerful and valuable addition to the too often limited resources of our art.

I am, Sir, your obedient servant,
GEO. ALF. WALKER.

St. James's-place, St. James's-street, June 28.

[The reader will find at page 211 of Dr. Burgess's excellent work a strong recommendation of Mr. A. Walker's remedy.—ED. *Medical Times*.]

THE JOHN HUNTER CLUB.

[To the Editor of the Medical Times.]

SIR,—At last the John Hunter club has spoken. It has chosen a gentleman signing himself "J. H. C." for its mouthpiece, and it strikes me a worse mouthpiece could scarcely have been chosen. A more knock-kneed composition than his epistle I never saw. His awful flounders with "with," "which," "would," and "will;" his tautology, his relatives without antecedents, indicate such a mental condition that one mutters involuntarily, "Alas! the brains are out, and yet the thing won't die." Cunning often fixes on almost brainless pates for her favourite dwelling, so "J. H. C." conceals what the propagandist of the Club let out to "F. R. C. S." Let me seriously entreat the country Fellows to consider the following paragraph:—"That there was an opinion prevalent amongst many of the Fellows, *in which several members of the Council participated*, that as this body was now powerless to select its own members, and as the number of Fellows was on the increase, many of whom *resided in the country, and* THEREFORE had not the means of judging of the qualifications of the candidates, it seemed expedient that some steps should be taken to insure a return of *proper* individuals to the Council, with the view of keeping up its *high* character." So Fellows who reside in the country have not the means of judging of the qualifications of candidates. Alas, poor Fellows! Kiernan, Hodgson, and Dalrymple can only be appreciated by those who still snuff the air of St. Bartholomew's, St. George's, and Guy's. How thankful these country *fellers* ought to be that the London Fellows are kind enough to choose for them. I trust, if any country *Feller* find himself in Lincoln's-inn-fields on the eventful day, he will show how truly the members of the John Hunter Club have estimated his capability of judging for himself, by rejecting Mr. Wormald; but if he should be unwilling to be led by men who, in choosing "J. H. C." for their spokesman, have shown an earnest wish to out-Dogberry Dogberry, for he simply desired to be written down an ass—they have begged to be printed such—he will replace the name of the member of the John Hunter Club by that of one who at least is unconnected with this already too famous institution.

I am, Sir, yours obediently,
AN OBSERVER.

CHLOROFORM IN CHOLERA.

[To the Editor of the Medical Times.]

SIR,—In reply to your Correspondent, who desires to know the mode of administering chloroform by the stomach, I beg to say that it is soluble in brandy, and that this solution will bear to be slightly diluted without precipitation ensuing. This is the best mode of giving chloroform in urgent cases, whether of English or Asiatic cholera. If, however, it is desired to give it without brandy, it may be conbined, as in the following prescription:—

℞. Chloroform, ♏ xx ad. xl; mucil. gummi. acac. ℥iss; syrupi. simp. ℥ss; sp. vini. rect. ʒj; aquæ dist. ad. ℥iij. M.

The chloroform should be dropped into the spirits of wine, and the solution added to the mucilage and syrup, in a bottle. This should be shaken, and the water added by degrees.

A fourth part of the above mixture will be an ordinary dose for an adult.

In these forms, apportioning the dose according to the age, condition, &c., of the patient, we have continued to use it here in cholera, dysentery, and spasmodic affections of the stomach and bowels, with the most satisfactory and remarkable results; and, so convinced am I of its efficacy in cholera, that I do not regard any patient afflicted with this disease as having had a fair chance of recovery in which chloroform had not been used. For further particulars on this subject, I would beg to refer your Correspondent to the cases and accompanying remarks he will find in the *Medical Times* of August the 12th, September 16th, and October the 14th, 1848.

I am, Sir,
Your very obedient servant,
P. BRADY.

Harrow, July 3.

LIFE ASSURANCE OFFICES AND MEDICAL MEN.

[To the Editor of the Medical Times.]

SIR,—The following correspondence has lately taken place between the "Defender" Life Office and myself. As it shows the opinion of the office as to the propriety of paying for what is necessary to their well-doing, you may, perhaps, think fit to make it known to your readers.

Letter (No. 1.) was the usual printed form, requesting answers, &c., to certain queries as to a patient's health, soliciting *an early reply*, which I accordingly gave.

"Crewkerne, May 10th, 1849.

"Sir,—I beg to acknowledge the receipt of a printed form, requiring answers as to the health, &c., of Mrs. E— S— of D—. I am one of those, who think that when questions of this kind, involving great responsibility, are put to a medical man for the benefit of an Insurance Company, that they are the parties to whom the referee should look for payment. On receipt of the usual fee I shall be happy to answer the proposed queries; but, unless I am insured payment, I must, as there will be most probably some trouble in obtaining the desired information from my patient, refuse to fill up the paper. You may, perhaps, be aware, that nearly thirty Companies of the most respectable character have come to the equitable determination of remunerating the medical referee.

"I have, &c., &c.

"John Kelday, Esq., Defender Life Office." "G. F. WILLS.

(No. 2.)

"London, May 11th, 1849.

'Sir,—I am aware that a *few* Companies (not nearly thirty) have recently adopted the practice of paying a fee to the medical attendant of parties proposing to insure their lives; and on behalf of this Company have given the subject great consideration, but have failed to satisfy myself that the demand of such fee has the least connexion with the ordinary principles of equity. I do not mean that the medical attendant should not be remunerated at all, but I do mean that it is not equitable to claim it from the office, while the party proposing Insurance considers himself to be doing thereby a beneficial act both for himself and family. The advantage is not more for the Company than the individual. The individual makes certain statements, which require a certain amount of confirmation before he can attain to the position he desires. His own statements and those of his referees are not those upon which the Company act!! They are, to be sure, made the basis of the contract between the parties, and upon their accuracy and fidelity rest the validity of the contract. It is, therefore, for the interest of the party insured that no false or incorrect statement should be made. I contend, therefore, that it is not inequitable to require him to furnish this evidence at his own expense, in like manner as, when selling property, the vendor not merely asserts his title, but, at his own cost, furnishes an abstract; and, on the other hand, the Company always requires that the proposer shall submit himself to the examination of a medical gentleman on their behalf, and of course they pay such gentleman's fee. I am induced to trouble you with these remarks, only because, by the use of the word equitable in reference to payment of your fee, you seem to imply that a refusal to do so would be inequitable. There are, however, other matters in connexion with this particular case which compel me to require that the fee should be paid by the party proposing.

"I am, &c. &c.,

"G. F. Wills, Esq." "JOHN KELDAY.

"Crewkerne, May 12th, 1849.

"SIR,—In reply to your letter, I beg to state that, unless I am insured remuneration for my report as to the life of Mrs. E— S—, either from the office or from the party proposing to effect the insurance, I cannot make the required return. With respect to your arguments, as to the equity of the fee being paid by the office, I cannot at all agree with you, as the individual whose life is proposed is content to take the state of his health as he gives it himself; but the office, not being satisfied with his statement, requires the certificate of his own medical attendant, who, of course, must be the best judge of his health, and who gives his report for the safety, and, therefore, solely for the benefit of the Company. The Medical Report is often unfavourable, and, therefore, to the disadvantage of his patient. How then can we require, as a general rule, the proposer to pay for what does him no good, and even positive harm, by exposing to other parties, not only the state of his own health, but the general health and predisposition to disease of his family? In the present instance, I have not only not been applied to by the proposer, but do not know his name or his situation in life, and, therefore, unless I am made acquainted with this, or am in some other way insured payment of a fee, which every person must allow to be a just and a well-earned one, I would ask if it is reasonable that I should undertake the responsibility of answering the proposed queries. I still think that the equitable mode of payment is by the Company, even should they think fit to charge the party with a fee after the proposed examination has been passed. You state "that a few Companies (not nearly thirty)" as I mentioned in my letter to you, "have recently adopted the practice of paying a fee." I beg to inform you, however, that my statement is correct, and, on the other side, give you a list of those who published their determination to do so some weeks since, and I believe others have agreed to the plan lately.

"I remain, Sir,
"Your obedient Servant,
"G. F. WILLS.

"John Kelday, Esq., Defender Life Office."

I accordingly gave him a list of twenty-two offices who had determined to pay the medical referee, and I know that there were some others whose names I could not remember.

"Defender Office, May 15.

SIR,—In reply to yours of yesterday I beg to state, that the circumstance of your not having been applied to by the proposer, who has referred me to you; as, also, the fact of your not knowing his name or situation in life, are a strong confirmation of your position in requiring a fee, and I have written to the parties accordingly.

"I remain, Sir, &c., &c.,
"JOHN KELDAY."

Here the correspondence terminated. The proposer came to me, and objected to pay a fee, as he had already paid half a guinea, which he understood to be the fee for the medical referee of the Company, before whom he had been. I gave him a list of some offices which I could recommend, and have not since seen anything of him. I may add, that I do not consider the life to be a very good one; thus affording another proof that it is *solely* for the advantage of the Company that my opinion was asked. I trust that Medical men, by being determined in their opposition to gratuitous opinions to Life Offices, will have the satisfaction of finding, that these will be under the necessity, "however painful," of affording them a just remuneration for a valuable service, saving, perhaps, to them thousands of pounds every year.

I am, Sir, your obedient servant,
G. F. WILLS.

Crewkerne, July 2nd, 1849.

STERILITY.

[To the Editor of the Medical Times.]

SIR,

Reading of late, in the *Medical Times* and its contemporaries, several clever compositions on the cause and cure of sterility in women, it has struck me that the writers thereof can have but one eye, else their dual vision would have led them to perceive that there is another side of the question, viz., the want of fecundity in men, on which side of the subject I confess myself even more curious to be informed, but have never yet been fortunate enough to meet with a case,—whereby I am reminded of the retort in the fable of the Lion and the Painter; and my present writing is to request your kind attention to this sad omission. Yours constantly, "MEM."

MEDICAL NEWS.

Apothecaries' Hall.—Names of gentlemen who passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, 28th June, 1849:—George Gordon Lawrence Williams, Llandovery; Robert Tassell, Wye, near Ashford; Peter Allen, Smarden, near Cranbrook; William Jeynes, St. John's, Newfoundland; Luke Blumer, South Shields.

Royal College of Physicians.—On Saturday last the Harveian Oration was delivered by Dr. Badeley, of Chelmsford, in the presence of a large assembly, after which nearly 100 sat down to a splendid dinner in the large dining-room of the College. The oration, which lasted forty minutes, was much admired for its elegant Latinity, as well as for the liberal sentiments which pervaded it, and was much applauded throughout; being clearly and audibly delivered it was heard by every one present. It comprised the usual commemoration of the benefactors and ornaments of the Profession, and suggested means of increasing the utility of the Institution, and afterwards advocated throwing its doors more open to those physicians whose attainments and skill merit promotion, instead of confining the Fellowship to Graduates of Oxford and Cambridge, as formerly. Amongst the company present were Lord Carlisle, Lord Rosse, P.R.S., Lord Langdale, the Master of the Rolls, the Lord Chief Baron, Barons Alderson and Parke, Mr. Justice Patteson, Mr. Justice Creswell, the Dean of Westminster, Sir H. Halford, M.P., Sir B. Brodie, Sir. C. Clarke, Sir C. Forbes, Mr. Hallam, in addition to Dr. Paris (the President) and most of the eminent members of the Faculty. The grand library, in which the oration was delivered, was elegantly adorned with flowers, and the rostrum embosomed in laurel.

Royal College of Physicians.—The censors elect are Dr. Southey, Nairne, Barker, and Jeaffreson.

Royal College of Surgeons.—The following gentlemen, having undergone the necessary examinations for the diploma, were admitted members of the College, at the meeting of the Court of Examiners on the 29th ultimo, viz., Herbert Brown, Cambridge-street, Hyde-park; Charles Veral, Norton-street, Marylebone; Joseph Bray Gilbertson, Preston, Lancashire; Benjamin Hunt, Ashby-de-la-Zouch; Josiah Robert Jenkins, Ruthin; Henry Day, Norton, Yorkshire; William Edmund Strong, army; William Gregory, Jun., Belle Vue, Finglass-bridge, Dublin; and Charles Alexander Bisset, Peckham, Surrey. At the same meeting of the Court, Mr. Narcissus Collins Hatherly passed his examination for naval surgeon. This gentleman had previously been admitted a member of the College, his diploma bearing date May 2, 1845.

Royal College of Surgeons.—The following gentlemen having undergone the necessary examinations for the diploma, were admitted members of the College at the meeting of the Court of Examiners on the 2nd inst.:—Messrs. Thomas Carey, Midhurst, Sussex; Frederic Charles Spackman, Bradford, Wiltshire; Adam John Cridland, Taunton; William Henry Thornton, Thornhill, near Dewsbury, Yorkshire; John Syer Bristowe, Camberwell; Charles Harper, Plymouth; Alfred Ball, Bishopsgate-street; William Annable Skinner, Headcorn, Kent; Richard Cooper Todd, Dublin John William Billing Steggal, London; and John Buncombe, Taunton.

Appointments.—Professor Owen has just received the diploma conferring on him the distinction of Corresponding Member of the Royal Academy of Sciences of Madrid, and has been unanimously elected an Honorary Fellow of the Royal College of Surgeons of Ireland. These honours indicate the appreciation of the worthy Professor's abilities and talents by the most distinguished home and continental Institutions. It is not a little curious, that these honours should have been conferred on Professor Owen at the moment when his qualifications to a seat in the Council of the Royal College of Surgeons of England have been so freely and inconsistently called in question.—Mr. Charles Henry Hallett, late Demonstrator of Anatomy in the University of Edinburgh, and Student in Human and Comparative Anatomy at the Royal College of Surgeons, has just been appointed Senior Surgeon and Naturalist to the Southern Whale Fishery Company,—an appointment this gentleman has been induced to accept from the excellent opportunities it will afford him of prosecuting a more extended study of natural history and anatomy. Mr. Hallett has been long known to the Profession by some elaborate papers in the pages of our esteemed contemporary, the *Edinburgh Medical and Surgical Journal*, and some that have appeared in this Journal, "On Varieties of the Venous System," of the "Ciliary Ganglion," and "On Fractures of the Hip-joint at an Early Age." We wish Mr. Hallett that success his merits deserve.

Obituary.—On the 1st inst., at Kemerton Rectory, in his 83rd year, Robert Disney Thorp, M.D., father of the Archdeacon of Bristol.

Death of Dr. A. T. Thomson.—It is with great regret that we announce the death of Dr. Anthony Todd Thomson. He died on Tuesday, at his country seat near Ealing. Next week we propose to lay before our readers a short account of the professional career of this very able and much-lamented physician.

London Cutaneous Infirmary.—The Annual Dinner of the London Cutaneous Infirmary took place at the London Tavern, on Thursday, June 14. The Right Hon. Lord Robert Grosvenor, M.P., &c., presided, and amongst the company assembled we observed Samuel Gurney, jun., Esq., Thomson Hankey, Esq., Robert Alexander Gray, Esq., J. H. Goodhart, Esq., Donald Nicoll, Esq., Jonathan Chapman, Esq., David Drakeford, Esq., James Startin, Esq., George Startin, Esq., Standish G. Grady, Esq., Boyes Thornton, Esq., &c. Considerable interest was excited by the presence of Mohammed Bey and other distinguished members of the Egyptian Naval Service. The usual loyal toasts having been severally proposed and duly honoured, the noble Chairman proposed—"Prosperity to the London Cutaneous Infirmary," and dwelt strongly upon the claims the Society possessed on public sympathy and support. He referred to the Hospital of St. Louis in Paris, and expressed his surprise that in a city so celebrated as London for its wealth and benevolent institutions, so little attention should until recently have been paid to that important class of maladies—diseases of the skin. Paris, with only half the population of London, found it necessary to have its Hospital of St. Louis, which annually relieved 30,000 persons, while the metropolis of England, with its 2,000,000 of inhabitants, had, as yet, but this Infirmary, although he hoped that the Committee would succeed in their design of making it the nucleus of an hospital commensurate with the wants of this great city. Various other toasts were proposed and received with much enthusiasm, amongst them, the Noble Chairman, the President, Samuel Gurney, Esq., the Treasurer, J. Gurney Barclay, Esq., the Committee of Management, and Boyes Thornton, Esq., honorary secretary, the Distinguished Foreigners present, &c. From the Report which was read it appeared that the Society was making steady progress in public opinion, although its means are not as yet at all adequate to the demands on its bounty. Since its establishment in 1841 it has relieved upwards of 22,000 persons, the average of which number is daily on the increase, and even a larger number than the above have availed themselves of the excellent suite of baths attached to the Infirmary. In the course of the evening, donations and subscriptions obtained by the stewards were announced to the amount of about 840*l*. There is a further valuable feature in this Institution, particulars of which may be seen on reference to our advertising columns of this day. We allude to the existence of a school for the study of the diseases treated by the Infirmary, the fees arising from which are devoted to the Charity.

Bethlem Hospital.—On Wednesday week the annual dinner in commemoration of the establishment of this Hospital took place in the great hall of Bridewell. Sir Peter Laurie in the Chair. In the speech of the President allusion was made to the new and benign mode of treatment adopted, and which had been attended with the greatest success. The different mechanics had been furnished with tools for carrying on their usual trades, and not one accident had occurred. It had been ascertained that when a patient was in a state of excitement he became calm and reconciled on being led to his place of work, and supplied with instruments which in his hands might be considered most dangerous. Of 320 lunatics in the hospital, 166 had been dismissed apparently cured. The President, in his speech, made the following observation:—"It was the anxious desire of the establishment to get rid of the patients with all possible celerity. The temptation to procrastinate a cure—a temptation so great as regarded a wealthy patient confined in a private establishment, was not afforded in an asylum where there was nothing to pay, and where the most speedy remedies were applied, without regard to the cost or trouble of the application."

The German Hospital at Dalston.—The Annual General Court of the Governors of this Institution was held yesterday at the London Tavern. His Royal Highness the Duke of Cambridge took the chair at twelve o'clock. In his address to the meeting, which was numerously attended, His Royal Highness explained the nature and the purpose of the meeting, viz., the adoption of certain resolutions respecting the manner of the management of the Charity and the election by the Governors of a certain number of members to fill the vacancies occasioned by the outgoing, as provided by the statutes of the Institution, of certain members of the Committee. His Royal Highness congratulated the company on the improved state of the affairs of the Hospital, which had enabled the Committee to acquit all debts which had formerly hampered them, and on the final cessation of those unfortunate dissensions which at one time seriously threatened the existence of the German Hospital.

Health of London during the past week. (From the Report of the Registrar-General.)—The 1,217 deaths registered in the week exhibit an excess of 254 above the weekly average of the quarter, which ends on June the 30th; but this unusual result is due only in part to an increased rate of mortality. The registration of a considerable portion of those deaths on which inquests were held though they occurred at an earlier period, is no completed till the end of the quarter; a fact by which is explained the accumulation of deaths observed in the present return from fractures, hanging, drowning, poison, burns, and some vaguely described as "natural," or "from the visitation of God." The number now returned by coroners, as caused by violence, is upwards of 80, though the weekly average is only 29; those enumerated in the table as "sudden deaths," 46, though the average does not exceed 11; an excess, for the same reason, is found under "apoplexy," the cases returned being 42, while the average is 24. But the mortality from diseases of a tubercular nature, and from those of the organs of circulation, differs little from the average; that from diseases of the respiratory organs falls considerably under it. In the zymotic or epidemic class the increase is remarkable; here, the deaths which in the two previous weeks were respectively 251, 277, were last week 349, whilst the average is 198. The fatal causes in this groupe, which attract notice, are hooping-cough, from which there were 53 deaths, (the average being 36); diarrhoea, from which there were 30, whilst the average is 12; and cholera, from which 124 deaths are enumerated. The recent progress of this disease is shown by the weekly returns; for in four previous weeks the fatal cases were respectively, 9, 22, 42, 49. Last week it was fatal to 76 males and 48 females, of whom only 5 were under 5 years of age, 21 between that age and 15 years, 88 at 15 and under 60, and 10 at 60 and upwards. Few deaths from it occurred in the north districts. Mr. Westerp, the Registrar of St. James, Clerkenwell, reports that a man died from "*fever*" after an illness of six days. He had lain on the floor of a miserable hovel six feet square, and within a few feet of a nuisance which accumulated and overflowed in the court. Two cases are ascribed to intemperance,

two to privation, and a young man of 18 years died in Pancras of "phthisis," while left in a destitute condition by his father, who had deserted him. A woman died in the City-road Sub-district, at the advanced age of 100 years.

THE CHOLERA.—This disease has been on the increase in the Metropolis and some parts of the country during the past week, as we observe with regret that the mortality, in proportion to the number of persons attacked, is as great as ever. It is evident, therefore, that whatever control may be exercised over the premonitory symptoms in the more advanced stages of the disease, no satisfactory mode of treatment has yet been generally adopted. We should be glad to see Dr. Stevens's saline treatment fairly tried, and we trust the members of the Profession will, without delay, direct their especial attention to it, and we shall be most happy to record their experience in the pages of this Journal. In Gloucester cholera has been on the increase, and one of the medical members of the Board of Health has visited the place. He has made a most unfavourable report in reference to the sanitary condition of the city, the sewerage being most defective, and many of the houses in the back lanes in a filthy condition. In Liverpool the returns have been favourable. The French metropolis is almost free from the disease, while in New York and some other large cities of the transatlantic Republic it has been spreading with fearful rapidity.

MR. RENSHAW, the publisher of Dr. Burgess's work on the skin, has applied to the Court of Chancery for an injunction to restrain the publication of a book on the same subject by "J. Innis, M.D," lately reviewed in our pages.

THE LONDON MATERNITY CHARITY.—The Special Committee appointed to examine into the management and constitution of this Society, are, we understand, prepared to recommend very extensive changes, some of them having reference to the medical department.

THE LONDON MUTUAL LIFE AND GUARANTEE SOCIETY.—A new office, starting under the most favourable circumstances, has done itself honour in the recognition of the claims of the Faculty, by a resolution to pay a fee of half-a-guinea in every case when information is given by medical referees, whether the life is accepted or declined. It is to be hoped that all the Mutual Offices will follow this example.

UNITED TWINS.—We have been favoured by Dr. Verhaege, of Ostende, with an account of the female children recently born at Earneghem, in Belgium, who are compactly united together in a similar manner as the Sicilian twins, Ritta and Christina, and the Siamese brothers, whose names we forget. Dr. Verhaege's memoir is accompanied with a drawing, which we will engrave and publish next week.

HALIFAX UNION.—MEDICAL RELIEF TO THE POOR.—A summary of orders, visits, and medicines, supplied to Poor law patients in the Halifax district for the quarters specified below. Halifax district—population, 19,881; area, 990 acres:—

	For the Quarter ending Dec. 25, 1848.	March 24, 1849.	June 23, 1849.
Number of orders for medical attendance from the relieving officer	194	225	176
Visits to the residences of patients	541	510	460
Mixtures dispensed	1,029	1,052	996
Pills	3,157	3,606	3,334
Powders	663	572	481
Lotions	36	46	55
Liniments	45	32	51
Boxes of ointment	36	47	41
Plasters	79	132	126
Remuneration for the duty and the supplies above recorded	£20, or 2s. per case.	£20, or 1s. 9½d. per case.	£20, or 2s. 3½d. per case.

This Table is correct.—FREDERICK S. GARLICK, Medical Officer for the Halifax District.

THE "British Record of Obstetric Medicine, Surgery, and Diseases of Women and Children," edited by Dr. Clay, of Manchester, has ceased to exist. The publication extended to two 8vo. volumes; it was conducted with talent and moderation, and the editor carries into private life the best wishes of the Profession.

MORTALITY TABLE.

For the Week ending Saturday, June 30, 1849.

CAUSES OF DEATH.	Total.	Average of Five Springs.
ALL CAUSES	1217	963
SPECIFIED CAUSES	1214	959
Zymotic (or Epidemic, Endemic, and Contagious) Diseases	349	198
SPORADIC DISEASES:		
Dropsy, Cancer, and other Diseases of uncertain or variable seat	59	48
Tubercular Diseases	190	200
Diseases of the Brain, Spinal Marrow, Nerves, and Senses	145	123
Diseases of the Heart and Blood-vessels	37	34
Diseases of the Lungs, and of the other Organs of Respiration	105	131
Diseases of the Stomach, Liver, and other Organs of Digestion	70	62
Diseases of the Kidneys, &c.	5	11
Childbirth, Diseases of the Uterus, &c.	11	
Rheumatism, Diseases of the Bones, Joints, &c.	11	
Diseases of the Skin, Cellular Tissue, &c.	3	1
Malformations	1	3
Premature Birth and Debility	36	21
Atrophy	16	17
Age	37	50
Sudden	16	11
Violence, Privation, Cold, and Intemperance	93	33
Causes not Specified	3	4

TO CORRESPONDENTS.

We are obliged to Mr. M'Bean for his communication, which, however, we must decline publishing. We do not think that the gentleman in whose praise, the letter is written would be well pleased to see it published, however well intentioned it may be.

"'Tis pleasant, sure, to see one's name in print,
A book's a book, although there's *nothing* in 't,"

may be, and is, very true in some cases; but we are quite sure it does not apply to the gentleman in question.

We have received a letter from "A King's College Hospital Student," upon the subject of Morbus Coxarius. We never publish such letters anonymously. If the writer has any charge to make, let him make it openly, and not under the protection of a *nom de guerre*. If he requires information, we are sure he has only to apply in the proper quarter; and, meanwhile, we ourselves refer him to a communication by Mr. H. Smith, published on the 12th of March, 1848.

"Mr. Gwydir" is informed, that Dr. Stevens will shortly publish "instructions for the treatment of the cholera." We are quite sure, however, that he will readily communicate with Mr Gwydir on the subject; meanwhile, in reply to the many queries we have received upon the subject of the saline treatment of cholera, we have only to refer to Dr. Turley's letter in this Journal, at page 594, in which Dr. Stevens' mode of treatment is detailed.

"Medical Provident Institution."—We have read Mr. Hawtayne's letter and papers with much pleasure. We shall, probably, allude to the subject next week.

"Junior."—Hydrocyanic acid, as a remedy for blindness, has not been found by experience to effect those cures which its advocates at one period asserted that it would. The circumstance, that the eyes of those who had destroyed themselves by prussic acid remained clear and dilated, led to the employment of this agent for relieving many of the diseases to which the organ is subject. Many experiments were said to have been performed with surprising success; and it was even stated that blind persons were returned to sight. The mode of application is, by putting the fluid in a small bottle, with a mouth shaped to cross the hollow of the eye. With the acid is put a little asbestos, to act as an absorbent, and the vapour merely comes in contact with the diseased eye. The cases said to be most benefited by the acid are, opacity of the cornea, rheumatic ophthalmia, staphyloma, amaurosis, and cataract. We have employed it in some cases with apparent success, in others without any marked benefit.

"L. S. G., Holloway."—1. Swammerdam was aware of the fact of the contraction of the muscular fibre when acted on by the influence of two metals, copper and silver; he performed the experiment before the Grand Duke of Tuscany, nearly a century before Galvani announced his discoveries. 2. In the higher animals, the electric currents are but feebly developed.

"Nestor."—The earliest notice of the plant is about the middle of the 16th century. The alkaloid contains a large amount of nitrogen.

"Chemicus."—Olefiant gas, when condensed, appears as a beautifully transparent, colourless liquid; it is not solidified, and will dissolve oily, resinous, and bituminous bodies.

"M. B., Cheltenham."—It belongs to the class annelides.

"An old Subscriber."—The Charter has not lately been altered. Licentiates who have not graduated at Oxford or Cambridge are now eligible for the Fellowship.

"An Irish Medical Student."—The University never adopted such a practice.

"Amicus."—Craw-craws is generally found amongst the negroes shipped from the coast of Africa, but is frequently communicated to the crew of the vessel. The disease is found principally on the outer parts of the arms, from the wrists up to the elbows, and will spread over the whole body if neglected. It resembles scabies, but is more annoying. The internal and external use of sulphur, with a generous diet, are the means employed for its cure.

"Delta,"—should consult Aiken's Biographical Memoirs of Medicine in Great Britain.

"A Pupil" can, with the consent of his master, spend a portion of his time in attending lectures, &c., without endangering his indentures. The Apothecaries' Company would not offer any objections.

"Medicus."—The Indian hemp was employed by M. Willemin, in Egypt, under the form of resinous extract, as a "cure" for cholera, and, it is said, with marked success. We have not heard that it has been used with the same beneficial results in this country.

"Æsculapius."—Hoblyn's Dictionary of Medical Terms.

"A Member of the College."—It is a matter in which we cannot interfere.

"Justitia."—A person having only a foreign diploma cannot recover for medicine and attendance.

"Half-pay."—Yes; and the fever is sometimes generated by a foul state of the hold of a vessel.

"A Correspondent" informs us, that he has treated three cases of facial neuralgia with creosote with entire success. He administered the remedy in the dose of one drop every four hours. After the first two doses, the paroxysms were relieved; and the third entirely removed the disease, which did not return.

"M.D. and a Subscriber."—It is possible for a child to be born alive after the death of its mother. Dr. Taylor relates a case in which a woman having expired during labour, the accoucheur, on his arrival, immediately introduced his hand into the uterus, ruptured the membranes, and extracted a male infant, apparently dead. It was, however, speedily resuscitated by the ordinary means.

"J. B., Lincoln."—The Faculty of Medicine confers two degrees, viz., Doctor in Medicine and Doctor in Surgery. The education of the candidates for either of these diplomas is the same.

"Medico-Chirurgus."—Creasote is prepared by rectifying tar by successive distillations, till the oil which passes over becomes heavier than water. This is digested with a solution of caustic potash, which dissolves the creasote. When the liquor is exposed to the air, it becomes brown, and being then neutralized by an acid, the creasote separates. This process of solution in an alkaline liquor, and precipitation by an acid is to be repeated until the solution is no longer browned by exposure to air; the creasote is then pure.

"Adolescens."—The Iatro-mathematicians were a medical sect who endeavoured to explain the actions of the living body, and the operation of remedies, on mechanical principles. The atomic philosophy of Descartes revived the sect in modern times, but it is of high antiquity.

"A General Practitioner."—The Chancellor makes the regulations and appoints the fees.

"Mr. Evans."—We cannot suggest a remedy.

"A Student of University College."—The student's number of the "Medical Times" will give all the information which our correspondent needs.

"A Retired Practitioner."—There is no prospect, whatever, of a Medical Bill being introduced into Parliament this session.

"A Junior Surgeon."—All ships carrying a hundred or more passengers, must have duly-qualified surgeons, and a proper supply of medicines. The salaries of the medical officers we cannot state.

"Trinity College, Dublin."—Yes; and a petition must be sent to the magistrates, at the Quarter Sessions.

"James."—Acupuncture is easily performed by running in five or six needles with a rotatory motion.

"Chirurgus."—The affection is malignant, and the only remedy is extirpation with the knife.

"Inquirer."—The coroner had no right to call in question the qualification; and the fee can be recovered in the County Court.

A Correspondent, with the signature of "R.," writes:
"I beg leave to correct a statement of Dr. Massie's, in your publication of Saturday last. He ascribes the use of nitric acid in the cure of piles to Dr. Cusack. In so doing,—I am sure quite unintentional on his part,—he has given credit where it is not due. It was the late Dr. Houstun who first introduced the use of the remedy."

ORIGINAL LECTURES.

LECTURES
ON THE
PROCESSES OF REPAIR AND REPRODUCTION AFTER INJURIES.
DELIVERED AT THE
ROYAL COLLEGE OF SURGEONS OF ENGLAND.

By JAMES PAGET, F.R.C.S.
Professor of Anatomy and Surgery to the College.
[Reported for the "Medical Times."]

LECTURE III.

Healing by immediate union; its relation to Hunter's "Union by the first Intention." Description of cases. Essential characters of the process, the conditions necessary for it.—Healing by primary adhesion; its similarity to Hunter's "Union by the adhesive inflammation." General account of the process, and of its relation to other modes of healing.—Healing by granulations. General stages of the process. Periods of repose and of increased vascularity. Production of new substance. Formation of granulation-cells, and their development into cellular or connective tissue and cuticle, their deviations from this process.

MR. PRESIDENT AND GENTLEMEN,—In the last lecture I directed your attention to the distinction which Hunter drew between external and internal injuries, and the processes of healing in each. But it is necessary not to draw too close a line between these several processes, because that which determines the production of these materials seems to be the amount of violence which has been done to the parts; this one traces constantly after division of tendons; after the second or third day, the effusion of the more proper repairing matter begins, and takes its way through nucleated blastema; and I will now only add this—that the process of inflammation appears to be essential only to the production of the material; if it continues, it hinders all the subsequent stages of the development. I come now to speak of the healing of wounds by immediate union. This, as I before observed, is almost identical with what Hunter calls "union by first intention;" it is accompanied by effusion of blood, which becomes organised into new tissue; and I showed that Hunter was only just right in supposing that blood only forms the bond of union; but that he was quite right in believing that it was accomplished by union without any process of inflammation. I have adopted the term "immediate union" from Dr. Macartney, who says:—

"The circumstances under which immediate union is effected, are the cases of incised wounds that admit of being, with safety and propriety, closely and immediately bound up. The blood, if any be shed on the surfaces of the wound, is thus pressed out, and the divided blood-vessels and nerves are brought into perfect contact, and union may take place in a few hours; and as no intermediate substance exists in a wound so healed, no mark of cicatrix remains behind. We have familiar examples of this mode of healing in slight cuts received on the fingers, which, after being bound up, if no inflammation be induced, perfectly heal without the individual having any unpleasant sensation in the part after the moment of the infliction of the wound. A case has been lately communicated to me, of a considerable cut of the hand having been cured by this mode of direct union, without any sensation of pain, and in the short space of four or five hours."

Now, it is singular that he should have limited the instances of immediate union to such trivial ones as these, for many larger wounds, in favourable circumstances, are thus healed. Those examples are the best in which flaps of skin are raised up and then pushed along to replace some other wounded surface. The instances in which I have best observed it have been after operations for the removal of the mammary gland. (Diagram).—Here, after the removal of some skin, the rest of the surface is exposed by reflecting from it an upper and lower flap; the gland is then removed, and these flaps are laid down on the exposed surface of the fascia. In these cases there is a process of immediate union without the production of lymph to form it. The following case will illustrate the process of healing:—A female, aged 33 or 34; a gland was removed, and directly afterwards the flaps were laid down, and fastened with isinglass plaster. They appeared to unite in the ordinary way, and there remained only a narrow space between their edges, in which space granulations arose from the pectoral muscle. Three weeks after the operation these were making good progress towards cicatrization; but erysipelas and phlebitis ensued, and the patient died in four or five days. I expected to find the evidences of union by organised lymph, or, possibly, blood. But neither existed; and the state of parts cannot be better described than by saying, that scarcely the least indication remains of either the place where the flap of skin was laid on the fascia, or of the means by which these parts were united. It was not possible to distinguish the relation which these parts held to each other from that which naturally exists between subcutaneous fat and the fascia beneath it. There was no unnatural adhesion; but, as the specimens will still show, the subcutaneous fat which did lie over the mammary gland is now connected with the fascia over the pectoral muscle, just as (for example) the corresponding fat below the clavicle is naturally connected to the portion of the same fascia that lies there. I could find small points of induration where, I suspect, ligatures had been tied, or where possibly some slight inflammation had been otherwise excited; and one small abscess existed under the lower flap. But with most careful microscopic examination, I could discover no lymph, only small quantities of what looked like the débris of such oil-particles or corpuscles of blood as might have been between the surfaces when the flaps were laid down. The opportunities of examining wounds thus healed being uncommon I thought would justify an experiment; I therefore reflected a portion of the skin from the back of a rabbit, which was then replaced and fastened with sutures. Three days afterwards the rabbit was killed; where the edges of the skin had been retracted from each other, and about half an inch under the edge of the replaced flap, there was manifest adhesion with effusion of lymph; but through all the rest of the space, it was not possible to determine where the skin had been raised. It might have been suggested, that the lymph had again absorbed; but in this case, within three days would have been quite enough to determine whether there had been any lymph. During life, the same process may be watched. In four or five days after the removal of a breast, the flaps do not move at all stiffly, but will adopt that easy sliding which is peculiar to connexion of the skin with the subjacent fascia. Such is the process of healing by immediate union, and which really admits of no very long description. It is, of course, by far the best mode in which any wound can be healed, and two conditions seem to be necessary to it,—1. Exact coaptation of the parts which are separated; and, 2. The absence of all those circumstances which produce inflammation. The old plan of treatment is not so generally employed as it might be in the removal of subcutaneous tumors, where, generally, the flaps of skin are merely laid down. I believe that, in those cases, if the older plan, such as softly padding all the parts about the wound, were adopted, it would be better; while the danger of exciting inflammation is not so great, if it be remembered that the union will be accomplished in about two days, or not at all. Now, suppuration does not occur within two days, and hence there is no danger from this source. If the union is not effected in this period, we may be sure that it is a mode of healing in which there is no hope.

The second mode of repair which I enumerated is that of primary adhesion, and is that which Mr. Hunter called "union by adhesion," or "union by the adhesive inflammation." He says: "Where the former bond of union is lost in a part to produce a new one, a second operation takes place, namely, inflammation. If the divided parts are allowed to remain till the mouths of the divided vessels are entirely shut, inflammation will inevitably follow, and will furnish the same materials for union which are contained in extravasated blood, by throwing out coagulated lymph; so that union may still take place, though some time later after the division of the parts. This inflammation I have called the adhesive." Mr. Palmer, in commenting on this passage, says—"It is now generally considered that union by the first intention and adhesive inflammation are essentially the same processes, modified by the degree of inflammation. Union by the first intention is uniformly attended with some degree of pain and swelling, together with increased heat and vascularity, which, taken conjointly, constitute the definition of inflammation." And then: "According to the modern views, the modes of union above detailed are always accompanied by adhesive inflammation. The parts are united, not by the extravasated blood becoming vascular, but by the effusion and organisation of coagulable lymph." After what I have said of immediate union, it may appear that Hunter was more right in his views than his successors, and it is curious to observe how this theory has come to be thrown away. It seems to have been thus: Evidence was found leading to doubt as to blood becoming a bond of union; then as it was held that there must be some intermediate bond, none was known but coagulable lymph, and so it was supposed that blood was necessary to the healing of all wounds. The best examples of union by primary adhesion are those of incision through the skin. Here, when the cut surfaces are not in exact contact, the wound is exposed, and lymph is formed and fills up the space; or, when they are in contact, the sutures, or other means employed to keep them so, excite inflammation enough for the production of some lymph between them. The lymph organising itself, and becoming vascular, connects the two edges or surfaces, and forms between them a thin layer of cellular tissue, on the surface of which, if it be exposed, a very delicate layer of cuticle is developed. Such a wound is rarely healed without a scar. The lymph effused in the healing by primary adhesion always, so far as I know, developes itself through nucleated cells, as the lymph of acute inflammation does; doubtless the whole process is very similar to that of the adhesion of inflamed serous membranes. It may take place very quickly. It did so in one case, in a wound made seventeen hours previously. If a common abscess be opened, and the edges of the opening are not very thin, they may be found united, except at the central part, in eighteen or twenty-four hours, with a delicate pinkish substance, which is the new lymph; and in this time it is probable that the new lymph has acquired blood-vessels. But the earliest production of vessels with which I am acquainted was in forty eight hours, in a boy who lived eighty hours after a lacerated wound had been made through the abdominal walls, and in forty-eight hours of the eighty, he was so clearly dying, that no reparative process could have been going on. After death I examined some of the new material. A portion of the edges of the wound was united with lymph, which presented cells, like granulation cells, and the blood-vessels were existing loose. But I cannot complete the history of this union by primary adhesion, without mentioning the manner of parts healing by granulations and by secondary adhesion. With regard to a comparison of these two modes, every advantage is in favour of immediate union, for primary adhesion has not only the fault of being a slower process, but the inflaming material is apt to pass into a process of suppuration, and may become morbid. The instances in which the process of union by primary adhesion is shown, are those of operations for hair-lip, in which a very narrow cicatrix may be found existing, but a cicatrix still, and this in all cases marking the existence of a new tissue, and never acquiring the character of a perfect lip. But passing to the consideration of healing by granulations, and by secondary adhesion. Instances of these modes are found, after amputation of the limbs, where the surfaces of the wound are not united by either of the means already described, but are left to granulate; or such cases as the removal of a breast, and subsequent suppuration of the flaps and the exposed fascia; or such as wounds into inflamed parts, when the edges

gape wide asunder, and the spaces left between them are filled up with granulations. Granulations will generally arise on all wounded surfaces that are left open to the air and are not allowed to dry; they will do so whether this exposure be continued from the first infliction of the wound, or commence after the edges, which have been brought together, have been again forced asunder by the swelling of the deeper seated parts, or by hæmorrhage, or secretion of fluid, between them. Exposure of a wound to the air is not prevented by any ordinary dressings; the air that is enclosed beneath them, or that can penetrate them, appears to be quite enough to determine all the difference of the events that follow open and subcutaneous injuries. The simplest case for illustration is that of an open gaping wound, which, from the time of its infliction, is only covered, as in ordinary practice, with water dressing, or some soft and moist substance. Blood gradually ceasing to flow from the surface of such a wound, one may see still some blood-tinged serous-looking fluid, oozing from it; and the material on the surface of the wound, examined with the microscope, will be found to contain an abundance of the white corpuscles of the blood, imbedded, apparently, in a fibrinous film. The existence of these corpuscles on the surface of the wound, especially on those of wounded muscles and fasciæ, appears to depend only on their peculiar adhesiveness. One sees them adhering much more firmly than ever the red corpuscles do to the walls of the capillary blood-vessels, and to the glass on which they are examined; and I should think we may thus explain their collecting on cut surfaces; while the other constituents of the blood flow away, the white corpuscles, and probably also some of the fibrine, quickly coagulating, adhere to the surface, which, in comparison with what they naturally flow over, is very rough, and therefore favourable to the quick coagulation and entangling of the fibrine.

I am not aware what share the white corpuscles take in the healing of a wound, no observations having been made to prove this. They certainly do not hinder it: for it is by many believed to be favourable to union by adhesion, to leave cut surfaces exposed till they appeared glazed over with a whitish film, and then to put them into contact. This glazing consists of fibrine and white blood corpuscles. It is probable the corpuscles are organised. If a wound be still left open, this glazing remains on such parts as it may have formed on, especially on the exposed muscles. No evident change ensues in it, except that it appears to increase slowly, and makes the surface of the wound look as if covered with a thin greyish layer of buffy coat. This increase of glazing is the prelude of the formation of granulations; but while it is going on there is, in and about the wound, an appearance of complete inaction,- a sort of calm, in which scarcely anything appears except a slight oozing of serous fluid from the wound. The calm continues from one day to eight, ten, or more, according to the nature and extent of the wounded part, and the general condition of the body. In a cut or sawn hard bone, ten days at least will elapse before any change is manifest; in cancellous bone the change ensues a few days more speedily; on the under surface of a large flap of skin, with subcutaneous fat, three days may thus pass without change; on the cut or excoriated surface of the more vascular part of the skin, two days or three. These periods of repose after severe injury are of equal interest in physiology and in surgery; but in the former it is only the interest of mystery. Observations, made by Mr. Travers, on injuries of the webs of frogs, make it probable that the blood is stagnant for some little distance from the wound during several days after the injury: but why it is so, and what are the changes ensuing in and about it, preparatory to its again moving on, we cannot tell. There is, however, coagulation of blood in the vicinity of the wound, then a certain quantity of glazing matter, and then there occurs an increased supply of blood to the place where it was stagnant. This may be observed well in the case of bones, of which a very good one existed in St. Bartholomew's Hospital, where there was exposure of the vault of the skull; for many days the bone was unchanged, and it was supposed that it would proceed to exfoliation; but after some days a few rosy points appeared on its surface, and these multiplied and enlarged, and from each of them granulations grew up till the whole surface of the skull was covered. We watched them nearly every day, and it was evident that, in all cases, an increased supply of blood preceded the production of the new material from which granulations were to be formed. Doubtless just the same happens in soft parts as in bone; so that it may be stated generally that the first visible change that ensues after the period of calm, is an increased supply of blood to the parts in which repair is to ensue. This, probably, corresponds exactly with the increased afflux of blood which ensues in inflammation. The process of granulating displays herein two points of resemblance to inflammation, and of dissimilarity from natural processes; namely, 1st, that the increased quantity of blood moves more slowly than in health, while, in the naturally increased supply, its movement is not retarded; and, secondly, that the increased supply precedes the increased production of material.

The effusion of the material that is to be organised into granulations next follows. No account of this process of effusion, so far as it is visible to the naked eye, can be better than Mr. Hunter's; he says: "I have often been able to trace the growth and vascularity of this new substance. I have seen upon a sore a little white substance, exactly similar, in every visible respect, to coagulating lymph. I have not attempted to wipe it off, and the next day of dressing I have found this very substance vascular; for by wiping or touching it with a probe it has bled freely. I have observed the same appearance on a bone that was laid bare. I once scraped off some of the external surface of a bone of the foot, to see if the surface would granulate. I remarked, the following day, that the surface of the bone was covered with a whitish substance, having a tinge of blue; when I passed my probe into it I did not feel the bone bare, but only its resistance. I conceived this substance to be coagulating lymph, thrown out by inflammation, and that it would be forced off when suppuration came on; but, on the succeeding day, I found it vascular, and appearing like healthy granulations." Such is the process one may trace every day, and to this description little can be added more than the microscope has shown. In the minute structure of granulations, or, at least, of such growths of new substance as present all the characters that we imply by that term, —the bright ruddy texture, the pointed and granulated free surface, the succulency and abundant supply of blood,—in these, we may discern two varieties, corresponding with the varieties of lymph that I have already spoken of. For, in subcutaneous injuries or diseases, granulations sometimes form which develope themselves into cellular tissue, through nucleated blastema; so I found in a case of simple fracture, in which the ends of the bone remained long ununited; they were enclosed in a cavity formed by condensation of the surrounding tissues, but containing no pus, and, in eleven weeks, were covered with a distinct layer of fluid granulations. But in by far the greater proportion of cases, granulations are only formed in exposed injuries; in these they consist of cells, that may develope themselves into fibro cellular tissue. Cells upon cells are heaped up together in a layer, from half a line to a line thick, without apparent order, and connected by very little intermediate substance. Singly, they are colourless; but in clusters, they are ruddy, even independent of the bloodvessels. In granulations that are making healthy progress, one can especially trace that multiplication of nuclei of which I have already spoken. In the same, too, one can conveniently trace the cells in various stages, according to the position they occupy: the deeper-seated ones being always most advanced, and often much elongated or nearly filamentous; while the superficial ones are still in a rudimental state, or near the edges of the granulating surface are acquiring the character of epithelium-cells. The cellular tissue thus constructed by the development of the granulation-cells finally assumes all the characters of the natural examples of that tissue. Thus it is found in the layer of substance of which scars that are formed in the place of granulating wounds are composed. After some time, also, elastic tissue is mingled with the fibro-cellular; but this, as I have already said, appears to be effected by a later process. I found in one case no elastic tissue in scars that had existed, the one twelve months, the other eighteen months; but in scars several years old I have always found it. The cuticle, also, that forms on granulations gradually approximates more nearly to the perfect characters, and, like the fibro-cellular tissue that it covers, presents the interesting fact of adaptation to the purposes of the part on which it is placed. Thus, in granulating wounds, or ulcers on the sole of the foot, one may often see that, from the first, the new cuticle is more opaque and thicker than it is on other parts, on which the natural cuticle, in adaptation to the protection required from it, is naturally thinner; and let it be observed, that this peculiar formation of the new cuticle is in adaptation to conditions not yet entered upon. It surprised Albinus when he saw in the fœtus, even long before birth, the cuticle of the heel and palm thicker than those of other parts,—adapted and designed to that greater friction and pressure to which, in future time, they would be exposed. It is the same when, in adult life, new cuticle is to be formed on the same parts; while it is forming, all pressure and all friction are kept away, yet it is constructed in adaptation to its future exposure to them. Surely, such a provision is, beyond all refutation, an evidence of design; and in this fact we may discern another instance of the identity of the powers that are put in operation in the acts of first construction and of repair.

LECTURES
ON
THE CHEMISTRY OF THE POISONS;
OR, ON
PRACTICAL TOXICOLOGY.
SHOWING THE APPLICATIONS OF CHEMISTRY TO THE DISCOVERY OF CRIME.

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LECTURE II.

A further consideration of the circumstances which tend to increase the crime of secret poisoning.—As 2ndly, A want of watchfulness on the part of medical men; cases of imperfect registration; necessity for *post mortem* examinations.—3rdly, Negligence of county coroners; usual character of a "crowner's quest;" unsatisfactory results thereof; indefinite form of their verdicts, remarks thereon by Mr. Farr and the Registrar-General.—4thly, False parsimony of the county magistrates; comments thereon by Sir James Graham.—5thly, Indisposition of judges and juries to convict; illustrative cases.

At the conclusion of the last lecture, gentlemen, I was alluding to the circumstances which tend, in my opinion, to promote the crime of secret poisoning. And I mentioned, that the chief and most common of these was, an unrestricted trade in poisons, whereby any individual is enabled to purchase and use the most deadly drugs, without let or hindrance.

A second circumstance, which, without doubt, tends to give encouragement to this crime is, *a want of watchfulness on the part of medical practitioners;* for I fear that some of the members of our Profession are too apt, either from carelessness, ignorance, or an indisposition to be engaged in a criminal prosecution to slur over the symptoms which are manifested in doubtful cases, and to impute them to the operation of some common or indefinite cause. I must refer you to the Annual Reports of the Registrar-General for evidence on this point, where you may obtain ample proof, not only of the correctness of the statement just put forth, but also of the truth of an observation which I made during the last lecture, namely, that by far the greater number of deaths from poison are attributed to other than right causes, and are thus rendered exempt from all public inquiry. Let me give you a few instances of this.

In the Fifth Annual Report, issued by Mr.

Graham, it is stated, that 343,847 deaths occurred in England during the year 1841. And, of these, 24,563 are set down to *convulsions*; 53, to *spasms*; 20, to *cramp*; 9, to *spasm of the lung*; 14, to *spasm of the heart*; 55, to *cramp in the stomach*; 16, to *syncope*; 58, to *dyspepsia*: 3, to *gastrodynia*; 2, to *bile on the stomach*; 2, to *overflowing of bile*; 4, to *vomiting*; 10, to *surfeit*: 2, to *flatulence*; 2, to *polypus of the heart*. In all, 24,799 cases, in which the causes of death were evidently not ascertained, but were passed over by the medical attendant, and registered in a manner which the vulgar alone could consider as satisfactory. And, if to this number, I were to add the 6980 cases of *gastritis*; the 3240 of *diarrhœa*; the 515 of *dysentery*; the 443 of *cholera*; the 847 of *colic*; the 3961 of *sudden death*; and the 7183, in which the causes of death are *not specified*, I dread to think what might be the total amount of murder, and criminal conduct which, in that one year, was cloaked over by the negligence of our professional brethren.

Now, it rests with you, gentlemen, to improve this condition of things; and you can do so by noting carefully, methodically, and attentively, every circumstance which is connected with the history of doubtful cases; remembering, that when such cases terminate fatally, it is your duty to insist on having *post mortem* examinations; and, in fact, I may say that it is your duty, in all cases, to satisfy yourselves most thoroughly as to the cause of death, before you venture to record it upon the register. Herein, let me tell you, is your strength; and you may always use it without any compromise of dignity or reputation. It is a power, moreover, which will, at all times, enable you to disclose the practices of the secret murderer, and thus to do more for the protection of society than even the law itself has the means of accomplishing.

And, gentlemen, if, after you have proceeded with an investigation in this careful manner, it should fall to your lot to discover crime, and to appear in a court of justice as a witness in the case, depend upon it you will receive the highest compliments from the judge, who will not fail to allude to the conduct of the medical witness, whose watchfulness had obviously been the means of bringing an atrocious criminal to the bar of justice, and whose evidence had, perhaps, been sufficient to convict him.

A third cause, which operates in promoting the intentions of the secret poisoner, *is the gross negligence manifested by many of our county coroners.* Some of you will full soon have an opportunity of witnessing the farcical proceedings which are set on foot by these worthies, and of knowing, that a "*Crowner's Quest*" is, as Dr. Smith says, conducted in very much the same style as are the affairs of a country club, saving, that in the latter case, the business is, possibly discussed with more patience, and the truth is more frequently elicited. Too often are important grounds for inquiry slurred over; and evidence is frequently taken in such a way as manifestly shows that it is not wanted, any further than may be necessary to make a sufficient show on the face of the proceedings. This being accomplished, if no troublesome person be present to disturb the even tenour of the way, and no unlucky juryman of sufficient intelligence to confuse the affair by putting an awkward question, the Coroner tells the jury what they are to do; the jury do as they are bid, and everybody gets away in good time for dinner, or for supper as the case may be.

The inefficiency of these Courts has at length become so notorious, that the attention both of the public and the Legislature has been called to it; for how many cases have lately happened in which poison has been detected in bodies, months or even years after they had been buried, and even after they had been exposed to all the formalities of a coroner's inquest, and their deaths recorded as being due to the "Visitation of God." Look at the series of Shapwick murders, the perpetrators of which were tried in the West of England in 1844; and to the recent "*Burial-Club*" murders of Lancashire, Cambridgeshire, Essex, and Norfolk, and let *them* testify as to the negligence of our country coroners. Well, indeed, has Mr. Farr remarked, "that the ordinary mode of conducting inquests is not calculated to inspire either the criminal with dread, or the public with safety."

If you turn to the Fourth Annual Report of the Registrar General you may see that out of 33,881 inquests which were held in the years 1838 and 1839, there were 6708 in which the causes of death were not determined, notwithstanding that in every one of these cases the inquiry was instituted for the express purpose of ascertaining this point. And in the Report for the year 1841, Mr. Farr states, that in two out of every three cases of sudden deaths in which inquests were held, no *post mortem* examinations were made, and the causes of death were, therefore, not specified. A negligence of so gross and wanton a character could hardly be expected to be carried on without some comment being made thereon by the Registrar-General; and hence, in the year 1845, he forwarded a letter to every coroner in England, urging him to be more careful in the conduct of his inquests, reminding him of the intention of his inquiries, and requesting him to improve upon such verdicts as "*died by the visitation of God*," "*found dead*," or "*drowned*," "*died by accident*," "*died from grief*," "*from passion*," "*from anxiety*," or "*from a broken heart*." He informed them, moreover, of a circumstance which concerns you,—one which is alluded to by all authorities in medical jurisprudence, and which is clearly sanctioned by the Government, viz., that the causes of sudden death, often involved in great obscurity, can only be ascertained by an inspection of the principal organs of the dead body; and he further endeavoured to put coroners on the alert by saying, that the crime of poisoning had increased during the last century, and that this was doubtless owing to the number of deadly poisons which were so accessible in every chemist's shop.

It does not appear, however, that these things have undergone any material improvement. Indeed, a consideration of the duties of a coroner, and of the mode in which inquests are generally conducted, together with the fact that hardly any important alteration has taken place in the law which relates to such inquiries since the time of Edward I.,—that is, for a space of nearly 600 years, must naturally excite in us a considerable amount of astonishment. It is, moreover, a source of much concern to us to know, that while the legislature has been busying itself in matters which relate to all the common affairs of life, it has bestowed no attention whatever either upon this or upon many other sanitary subjects, which are admitted, on all sides, to have an important influence on the life and well-being of the community.

A fourth circumstance, which has a tendency to encourage the practices to which I am alluding, is *the false parsimony of the county magistrates*—a parsimony which leads them too often into the wanton commission of the very gravest errors. I have, for example, known that some of these gentlemen, who are ever watchful for what they term the pecuniary interests of their respective districts, have slurred over the facts of a criminal case, and have put an end to all further proceeding in it, for fear of entailing on the crown, the county, or the parish the expenses of a legal prosecution.

Nor do the authorities to which I am referring merely cripple the powers of justice in so far as relates to their own jurisdiction, but they must need do more; for, having some control over the expenses which are incurred by coroners, they will frequently refuse to sanction the payment of money which either has, or ought to have, been spent by these officers in the proper performance of their duties. In the year 1846 this matter was referred to in the House of Commons; and Sir James Graham, in commenting on the cases of poisoning which had recently occurred in Norfolk, said, that there was reason to believe that no fewer than twenty persons had died from poison administered by one individual, and in none of these cases had inquests been held. This, he remarked, had arisen from an indisposition on the part of magistrates to pay the expenses which are connected with coroner's inquests; and he stated that the magistrates of Devon had even gone the length of refusing to pay the costs of any inquests where the verdict was "Died by the visitation of God." Here, therefore, although the matter was publicly discussed, and even severely commented on by the Home Secretary, yet no effort has been made either to remove the evil, or to protect society from the recurrence of a similar enormity.

5thly. *I must refer to the indisposition which exists on the part both of judges and juries to convict, as another circumstance which tends, in my opinion, to give encouragement to the crime of poisoning.* And I hardly know how I ought to express myself upon this notorious and important fact. Perhaps the best mode of treating the subject would be merely to refer to a case or two by way illustration.

Case 1. At the trial of Ann Mather at Liverpool, in December last, for the murder of her husband, it was proved that the prisoner had purchased arsenic; that she had, on the same day, made a pudding for her husband; that he partook of this pudding, and suffered immediately afterwards from effects which are precisely similar to those occasioned by arsenic. It was further proved by means of a chemical examination of the dead body that arsenic existed therein. Nevertheless, the counsel for the prisoner, after speaking for three hours on the subject, was enabled to convince the jury that *the evidence only went to show that the prisoner had purchased arsenic, and that the deceased had died from the effects of arsenic*; "but," continued he, "there is a gap between the proof of these facts, and that of the wilful administration of the arsenic by the prisoner, which cannot be overleaped." And so the jury believed, for the prisoner was acquitted.

Case 2 is of a very similar character. In the month of August, 1847, a woman, Mary Lennox, was charged with the murder of her husband by poison. It was shown that the deceased was at work and well up to the dinner-time of a certain day; that his wife had prepared the dinner which he took on that day; and that immediately after he had partaken of this meal he became sick, and in a short time died with all the symptoms of poisoning by arsenic. Dr. Glover analysed the tissues of the body, and found arsenic therein. It was further proved that his wife had purchased arsenic, for the purpose of poisoning rats, on the very morning of the day on which deceased was taken ill. But, for all this, it was argued by the advocate for the prisoner—first, that it was highly probable that Dr. Glover was mistaken, and that arsenic did not exist in the body; and secondly, that even if it should be admitted that arsenic was present therein, the admission did not prove that the woman had given the poison to deceased, but it merely went to establish the fact of a strange coincidence. The jury were not unwilling to entertain a similar opinion, and so this woman was also acquitted. In another case, that of Mrs. Johnson, who was tried at Liverpool during the Lent Assizes of 1847, before Mr. Baron Alderson, it was clearly shown that deceased had died from the effects of arsenic, and that arsenic existed in the dead body. It was also proved that the widow had purchased arsenic a day or two before her husband's death; that she had been living for some time past on bad terms with her deceased partner; that she had frequently threatened to poison him; and that she had been carrying on an intercourse of gross profligacy with another man. But, notwithstanding these and other aggravating circumstances which were connected with the case, the counsel for the prisoner maintained that deceased had not died from the effects of arsenic, but that the poison had got into the dead body by accident. And he supported his argument by saying, that the grave in which the body lay was a wet one, that there was a great deal of water in the coffin, and that the arsenic had been thus washed from the soil into the dead body. These assumptions, for I cannot call them by any other name, were strongly supported by the Judge, and the prisoner was acquitted.

Case 4.—At the Kildare Lent Assizes in 1847, Jane Mayer and Garret Lennox were tried for

poisoning the family of Dr. Grattan. In this case it was distinctly evidenced that the family had been poisoned by some flummery of which they had partaken on a certain day; that the flummery was made by one of the prisoners; and that the flummery contained arsenic was proved by the testimony of a competent chemist, as well as by the circumstance of its having killed three calves to which it was given on the morning when the members of the Doctor's family were taken ill. Furthermore, it was affirmed, that the prisoners had been heard to declare, that such stuff, alluding to the Indian meal of which the flummery was made, should not be used in the house. And from the evidence of a fellow-servant, Mulligan, there were many other circumstances which bore strongly against the prisoners, insomuch, that when Mr. Justice Crampton was summing up the facts of the case, he said, that if they, the jury, believed the testimony of Mulligan unshaken, as he thought it was, they ought to find a verdict of murder against both parties; but the jury, after deliberating for one hour and a half, returned a verdict of Not Guilty.

In this manner I might proceed until I had recounted almost every notorious criminal case of modern time, not omitting those of Bellamy, Richardson, Allnutt, and Sheridan; but I think you will be enabled to perceive, without the aid of further detail, that there is a manifest indisposition on the part both of judges and juries to convict; and that, in fact, they are too much inclined to listen to the subtilties of ingenious advocates, and too ready to entertain the pleas of coincidence, of accident, and of insanity rather than incur the deep responsibility of dooming a fellow-creature to an ignominious death upon the scaffold.

This leads to the consideration of a sixth point, namely, the license which is permitted to an advocate in a court of law, but we must defer the discussion of this subject until our next lecture.

LECTURES ON MATERIA MEDICA,

DELIVERED AT THE ROYAL COLLEGE OF PHYSICIANS.

By GOLDING BIRD, M.D., F.R.S.,
Materia Medica Professor to the College.

[Reported expressly for this Journal.]

LECTURE V.

MATERIA MEDICA.

MR. PRESIDENT AND GENTLEMEN,—I have now devoted four lectures to the expositions of the views of others, and in endeavouring to bring before you such matters as were worth preserving in our minds, emanating from the intellects of those who have now passed away from us, and which exercised a great influence in the medical practice of those times. The present lecture, and the following one, I am anxious to take the liberty of monopolising to myself. I might otherwise appear to have worn the subject threadbare, and would therefore now devote a portion of the time allotted for this course to the application of remedies which have occupied a prominent position in my own mind. The time has now arrived in which we ought to apply some satisfactory reasoning to the application of remedies; and the views of others having thrown so much light on the *modus agendi* of medicines, we ought now rather to range ourselves under the methodici than the empirici of old; and, while I attempt something in this way, I am not proud enough to suppose that I can advance the science one step, but would at least wish to promulgate certain crude notions. And I would more particularly draw your attention to this subject, chiefly on account of the mind of the Profession having been directed to it on the Continent. I refer to the writings of Messrs. Barth and Dumas—they having at least advanced a step towards pointing out the application of remedies as connected with the treatment of disease. Some of their views are so interesting, and so in consonance with what I have myself observed, that I should be failing in my duty if I did not bring them forward. If I were to point to any one class of therapeutical agents about which there is less satisfaction among Professional men, (with the exception of resolvents,) I should pick out the class called tonic. According to the general signification, almost anything might become tonic—it merely expressing a generic term; and, if you look at the various drugs comprehended under this head, it is curious to observe how many of them are totally distinct,—thus: iron, bismuth, silver, sarsaparilla, gentiana, and serpentaria. Now, I select these as specimens all included under the generic term—tonics, and yet how different their modes of action, and how many practical mistakes occur in their administration. Any particular remedy being *called* a tonic, the patient believes tonic has been given. Thus, the mucous membrane of the ilium may be weak, and because iron is a tonic, therefore iron is given. How often has the practitioner seen cases where the strength deficient, and where the patient has been treated with bitter tonics without any benefit resulting. Much of this failure occurs through want of a due consideration of the particular condition which makes it necessary to give tone to the system. We may be said to have all a series of forces acting within us; these we do not seek to define; but if we could trace disease to their undue action, we should be better prepared to administer our remedies. Now, my object is, to endeavour to throw some light on this matter. If we admit the existence of a vital force, we shall regard the several forces in a different light than those operating on dead matter; in the latter case, there are a series of forces following definite laws, and we can accurately point out their results, and apply certain mathematical laws to them. But not so with respect to the living being; here the force cannot, at present at least, be rendered obedient to certain laws so duly. Therefore, the necessity of studying these forces. All will admit the existence in the body of two great forces,—

1. The vital force—
as opposed to
2. The chemical.

While we admit the first of these, it is obvious, that, unless some cause existed in the body which tended to break up and emaciate, in proportion as we took food, so we should grow on to any size and strength; and therefore it is necessary, at the same time, to admit a chemical force, operating to waste. These forces are antagonistic we know; but they modify each other. Thus—

—v

Growth

Decay

The line *f v* represents the intensity of the vital force, and *c f* that of the chemical. Now in the adult, *f v* is equal to *c f*, and then we should have the line *s f* as the result of the operation of the two forces. If, however, the vital force be more intense than the chemical, that intensity would be represented by the line *v f* becoming longer and inclining to growth; on the other hand, if the chemical force be in intensity, then we should have a lengthening of *c f* and going to decay. This may be a rude attempt at demonstration, but it serves to point out in what manner the forces counteract each other. But there is another series of forces which has been pointed out by Barth and Dumas. In investigating the influence of remedies, these writers indicate the existence of two distinct forces in every organ, and which influence its growth. Thus the *radical* (or *vegetative*) force is inherent to it, and its influence is to induce every organ to carry on its particular function. This is a passive force, or organic inertia. Then there is an active force influencing any particular organ, exciting, diminishing, or modifying its function; and the sum of these two constitute the vital force. Thus, suppose we have a voltaic battery, and the wires be plunged in some electric compound, capable of conducting electricity, the vessels containing the fluid represent the kidneys; the voltaic battery represents the series of organs which developes the principle of life, so far as the nerves are concerned. The battery being ready, but uncharged, is in a passive state; but on filling it with acid, an electric current is induced, which traverses the wires, and produces decomposition; but it also points out the polarised condition of the particles. Now, the current from the battery would represent the active force, and the polarised condition of the particles the radical. It has been thought, that the radical force is excited by the acting force of the battery, and that that action remains, although not in the battery—a polarised condition which keeps up an action, and thus produces a tendency for composition to go on. Then, using this rude analogy, let us suppose a dead body, and that we had the power of lighting up the influence of life. While it was inactive, secretion would not go on; but could we breathe into it the breath of life, what would it do?—at once set up the action of the system, and that force—the nervous influence—would at once be determined to certain organs, and these would resume their function. Now, that there exist these two distinct forces, we have no doubt, for we may control the one without affecting the other. A patient is dropsical; the kidneys do not act; a stimulus is applied, and they perform their function;—the fact is, you have determined the acting force, and thus quickened secretion. On the other hand, you have a patient with gout; the urine is very scanty, —there is hardly any secretion at all, and yet the acting forces are too active, if possible. Here, by giving alkaline salts, what do we do? We do not determine more force to the kidneys, but increase the secretion of urine. As another illustration, we may say, that the acting force is like the influence of steam in the steam-engine, while the radical force acts like the fly wheel. Then it becomes a question—How far we can act on these forces? Take the radical force, for instance. Its intensity differs much: of two individuals, they may have very different degrees of radical forces, and yet be apparently healthy; the one was born of healthy parents, and living in the open country; this one would live long, secrete properly, and live healthy; but another acquires struma. What is the result? We find that his glands secrete unhealthy matter, and then we get the horrors of scrofula. Now, the combined influence of these two forces developes the vital force, or that which is equal to the radical force plus an active force. The combined influence of these determines the healthy state of the patient—*quoad* constitutional health and vigour. Hippocrates distinguished this condition as one beyond which health could not be carried, and the writers above mentioned particularly point out, that there is a point in stimulating these forces, which cannot be exceeded without affecting the health. Thus, if you stimulate a man in fair health, and give him iron as a tonic, if that absorbs, you increase the blood, and he becomes apoplectic or plethoric, with a tendency to hæmorrhage; or if you give a bitter tonic, instead of his becoming more vigorous, you excite the circulation, and produce headache and distress. These writers suppose that Hippocrates alludes to the vital force when he speaks thus in his third Aphorism:—"An extremely full habit of body, in those who devote themselves to gymnastic exercises, is dangerous; for, as it can neither remain in the same state, nor change into a better, it must necessarily become worse. For this reason, it is advisable that the too full habit be reduced, in order that the body may commence a new course of nutrition. But this reduction must not be carried to an extreme, for that would be dangerous; it must be done only as far as the nature of the patient will admit."

Now, these two forces, the radical and the active force, are active in maintaining the status of the body. But there are others, also, which are active in enabling the body to undergo repair. One of the most mysterious of these is the force of assimilation; it is this which has been so erroneously considered as synonymous with digestion. It is not so, however, but widely different. It is a force lighted up by the vital principle, and which enables the individual to cause the pabulum to be assimilated to his own structure. Thus, even in the vegetable world, we have in the same hedge, we find belladonna, night shade, hemlock, the blackberry, and the rosa canina; and we find each one of these absorbing the same fluid from the earth, and yet giving out qualities totally distinct; for instance, we have the hemlock and nightshade developing deadly poison, and the rose and the blackberry giving out citric acid and saccharine matter. This is one of the most remarkable phenomena in nature, and in the human body we see it to perfection; and one of the most important weapons is that which thus helps the physician to control disease. Then we have another—a certain force of vital resistance, which appears to be active in preserving existence and in opposing changes; this is synonymous with the vital force. Taking the views of the two authors, these forces differ to a curious extent in different persons. In some the force of resistance is very prominent; in others that of assimilation is very greatly developed. Thus a person may be to all appearance healthy, florid complexion, and stout; yet he will suffer intensely from heat, he will get chilblains from exposure to cold—he will have fits on bleeding him to one ounce; such a one has very little of the force of resistance, and we also know how distressing it is to treat patients of this character. On the other hand, we may meet with one whose force of assimilation is very small, but where that of resistance is most remarkable. Look at these skeletons, who go through their work, hardly assimilating any of their food, and yet stand all the wear and tear. These are they who go through, under all sorts of influences, and never seem to wear out. Now, this force of resistance is one which we may excite and develope, and one which we may with equal facility crush. A person under the influence of plague, or of typhus poison,—he is at once crushed by it,—chemical decomposition going on even while he is living,—being a mass of bed-sores, and he dies in the most frightful state; here the force of vital resistance is destroyed suddenly. In others this force gradually sinks, as for instance in those under the influence of marsh miasma; here the force is gradually diminished, till at last, on a poison being received, they are crushed, and die immediately, without any particular function being interfered with.

But, after all, what are these forces. Trace them to their one great source, and, undoubtedly, if we look to any part of the nervous system, we should look to the ganglionic system for the origin of them. Admitting, then, the existence of these forces, it is obvious that the definition of "tonic" will admit of a little clearing up. By "tonic," we mean anything which will increase energy. Included under this term are many remedies which widely differ, as arsenic and gentian. But in isolating the conditions in which tonic remedies do good, I shall distinguish them by putting them into two great classes,—the neuro-sthenic or dynamic, that which gives power; and the analeptic or hæmatic, which invigorates by restoring healthy constituents to the blood. Admitting, then, the existence of the forces, and that we have a set of remedies that will increase the vigour of the acting force, and give tone and vigour to the blood, we thus break ground; and, in looking to the class which I call dynamic I would point out the results of my own observation in reference to the action of these remedies. It appears to me that they may be divided into classes distinct from each other,—a division which I have found of very great service to me; if it answers no other purpose it assists a short memory, and I confess mine is of that character. Taking, then, the neuro-sthenic, those which increase the powers of the body, I venture to divide as follows:

NEURO STHENIC—(DYNAMIC.)

SIMPLE—	2. CALMATIVE—	3. NUTRIENT—	4. ANTIPERIODIC—	5. NERVIN—	6. STIMULANT—
Quassia.	Gentiana.	Tussilago.	Quina.	Strychnia.	Absinthium.
Conduus.	Humulus.	Cetraria.	Cinchonia.	Zinc.	Stomach. { Anthemis.
Chiryati.		Sarsa.	Narcotin.	Silver.	Aurantium
Erythrea.		Hemidesmus.	Salicin.	Bismuth.	Cascarilla.
Menyanthis.			Beeberin.	Copper.	Myrrha.
Calumba.			Æsculin.		in. { Serpentaria
			Arsenic!		Contrayerva
					Acorus.
					Guaco.
					Cusparia.
					Simaruba
					Hæmatoxylon

ANALEPTIC—(HÆMATIC.)

Iron.
Food.
Oxygen.

From this, I think, we may see our way into the mode in which these act, according to the view which we have taken of the several forces. We talk of bitter tonics as adding to the vital powers; but, in so administering them, we do not so, we only acquire the power of applying a force in a convenient, economical way. If by the whole amount of my physical force I cannot lift this piece of chalk, no human power will enable me to do it without the assistance of a mechanical force. If the chalk is such that I can lift it one foot in a second, no human force will enable me to do more; but, by applying a lever I could lift it indeed higher, but, then, instead of lifting it one foot in a second, it would take ten seconds; so that, as to physical force, we cannot generate it. So here, and with regard to bitter tonics classed under the head "simple,"—to which I shall only allude in this lecture; they possess a crystallised bitter principle, which in all of them is analogous. These peculiar principles are incapable of exerting any particular influence on the secreting organs; but they appear to influence the stomach by increasing its assimilative force. This is the feature of this class of tonics; and I believe they do it by their influence on the vegetative nerves of the stomach, and by causing an increased secretion of gastric juice. In these (the simple) we have a different form of bitter tonics, consisting in the absence of a stringent influence. They owe their value to their crystallised principle, with the exception of the last two, which have not been examined; and when taken, they increase the assimilative force of the stomach—an all-important function, because it is the initiatory stage from which the formation of health blood is derived. Others of these tonics differ in the addition of other influences. The name of the second class is applied to a certain series of dynamics, which, while they increase the assimilative force of the stomach, do more; they act on the extremities of the nerves of the stomach, allay the debility of the organ, and act as sedative agents. The first is the hop; the second is not so generally admitted, but that it exists is certain. If the first is distilled, a certain oil is obtained like opium, and we sometimes meet with persons who cannot bear gentian; so that, in the second class, I isolate one in which the remedies differ from the first in acting as sedatives and thus add another influence to another series of nerves.

ORIGINAL CONTRIBUTIONS.

ON CHOLERA IN IRELAND.

By Dr. KIDD, Limerick.

Since last I had an opportunity of observing on the character of cholera in this country, I have been struck with some experiments of no little interest on electricity in that disease,—experiments, I may say, somewhat accidental in their origin, possibly more worthy of our attention, and likely to throw some light on the spread of the epidemic in this part of the world.

M. Maussenet, I perceive, claims all the honour of discovering that Asiatic cholera arises from some abnormal electric action of the earth; and Dr. Ducros, following out the matter in the spirit of the great Lord of Verulam, has put the thing, he says, to a true *experimentum crucis;* but we are far yet, I think, from a thorough understanding of the precise relationship of these electrical phenomena.

Allowing a very wide margin for this "abnormal electric action" of which M. Maussenet speaks, which he takes the trouble of calling by the very mysterious term—"*terrestro-magnetic;*" and which our other friends of the French Academy would wish to dress up into something very novel and out of the way, it will be well to keep in mind the facts on which he erects his hypothesis. He cannot have read Dr. Adair Crawford's and other remarks on the cholera at St. Petersburgh, and those made in Belgium.

Hasty conclusions from imperfect data, I need scarcely say, have been the bane of the science of medicine, and it we have got at the corner of a fact, very often we take to ourselves credit for a great deal more. We should be satisfied at present to register our observations. The mere opinion is as old as the hills: if our experiments were more general, too, it would be of vast advantage, and lead us ultimately to something like the truth Cholera is, in all probability, depending on some change in the electric state; but, until we have worked out for us the great problem of electric storms and electric calms, as I suppose we must call these phenomena under discussion,—until we understand these things better, we are not much nearer the solution of the mystery. "Much obscurity and confusion," says Dr. Bartlett, "would be removed from our conception of the nature of the philosophy of science, if this long-abused term, *inductive reasoning* could be suffered to disappear; and, if for the indefinite and shadowy ideas it so often expresses or attempts to express, could be substituted those which are so clearly and obviously contained in this phraseology, '*the classification and arrangement of phenomena, and their relationship.*'" This I take is the great source of the success of the great physiological school of Germany.

The tendency of the philosophy of our later school of medicine is very obviously towards a general and very useful eclecticism. We should be additionally, therefore, on our guard, against the admission of indiscriminate phenomena.

The experiments to which I wish to draw attention, being chiefly of a negative character, have led me into this train of thought; they were very simple, I may say, and somewhat accidental.

At the period of the decline of cholera in this city, I became anxious to learn the effect of the epidemic on the electricity of the atmosphere. In a very fine large needle suspended freely under glass, the result was actually nil; a few occasional oscillations of no very great moment; in the ordinary magnet the usual diurnal variations, and nothing else. To be more satisfied in the matter, however, a gentleman here—a very particular friend of mine—got up a very splendid magnet (not an electro-magnet) capable of sustaining 70 pounds, which we daily watched. No perceptible phenomena, however, of any kind; and cholera left Limerick: the magnet was laid aside. But now comes the extraordinary fact; on the appearance of the disease in Dublin—the cholera quite gone from Limerick—100 miles east of Limerick, *the magnet quite suddenly lost nearly all its power,* and varies with the decline or increase of the dis

ease in the metropolis. At one time it could scarcel support 10 pounds, and it is difficult to prophec what further changes may take place. I am unwil ling to make any observations, but to leave the fact on record.

Since last I directed attention to the subject o cholera I have been gratified to find I was but anti cipating many of the chief points urged by Dr. Southwood Smith and the Board of Health, whos Report I had not seen till it appeared in the *Medi cal Times*. Not a few of the facts, with which they deal, it is true, lay on the surface, requiring little delving or digging to get at. Others, more deeply mystical perhaps, they have brought into a some what clearer light, while others have been scarcely touched. The entire Report I think a documen containing many very sound and important con clusions.

Every one, indeed, not wedded to a favourite theory, if he have any experience of the malady at all, must perceive that sanitary measures—not qua rantines, in any shape or guise—constitute the true means of guarding against diseases like cholera, and that as, in a public capacity, we countenance either one or other of these measures, we run a chance of banishing this frightful plague from our shores or naturalising it amongst us. Remove those crying errors in our sanitary arrangements, in fact, that abound in all our overcrowded towns and villages, and we take away that by which the disease exists and propagates itself.

The epidemic influence that we so dread is, when rightly studied, not that formidable thing we had been taught to think—we ourselves, perhaps, in our mistaken notions,—the chief cause of its con tinuance. I spoke before of these causes at work— one, of possibly electric origin, the other local. Every day's experience makes me more satisfied of the truth of this view of the disease—facts of an ochletic character. Cholera hanging about crowds of people can in no other way perhaps be explained. Another point not less evident is this, that the more this *ochletic element* predominates, the more the disease, like hospital gangrene and some others, puts on the semblance of contagion, till very often, in mere reasoning on cases, it is difficult to divest the mind of the idea of contagion. At the other side of the Atlantic, I perceive the men of New York are pre cisely of this opinion also.

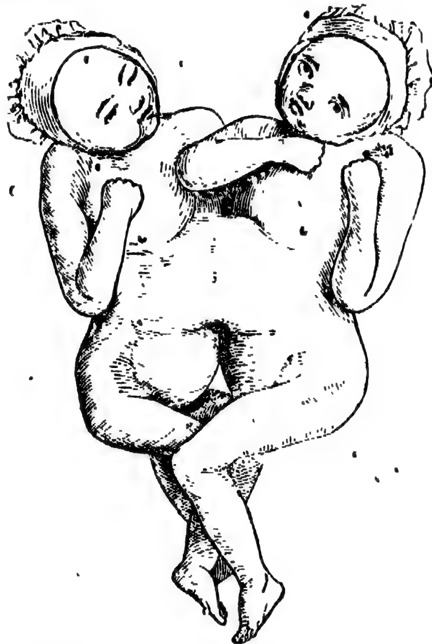
The subject of quarantine and that of contagion, though often mixed together, too, are, of course, different and distinct. If epidemic, no *cordon* mis named sanitary, can have any effect in warding off a specific disease. We should not, however, include under epidemic as contradistinguished from con tagious diseases, which are possibly one and the other. The contagiousness of typhus has been, I think, quite clearly underrated by the Board of Health; nor can I say I quite agree with the opinion, that, whereas disease cannot be imported in bales of *new* cotton, it cannot in *old* clothes—the miserable rags, for instance, of our poor people at this side of the channel emigrating to England and America. Every one here has seen typhus go from one to one of a family for months and months in wretched hovels, which the pen of "S. G. O." could scarcely describe—aye! visit every mem ber of the household two and three times apiece till it would be a mercy to pull such a plague-spot down; go on for months and months; die out and revive, and go on again through a second series of wretched beings. Here it would be idle to deny that some very palpable and fearful agent was at work. That a certain epidemic constitution of the atmosphere is necessary for this species of fever, too, as well as cholera, the entire history of our Irish epidemics very fully testifies. Here defect of sanitary matters is so perceptibly the chief agent at work, that the epidemic tendency is lost sight of; but the "family likeness," so to speak, of cases at particular epochs, at once exhibits the epi demic influence; at one time the skin, at another some particular points in the intestinal tract; in a third season, the lungs and so on, being almost in variably attacked.

If an absence of electricity, or any change or dis turbance of this wondrous agent be the chief thing at work in our epidemics, it is satisfactory to b assured of the fact. We are not, however to jum to the conclusion that it is also a cure. For mysel I must profess a more lively faith in Dr. Stevens plan, from all the evidence we have of its efficacy to the mere applying of wires over the solar plexus We should recollect that if this absence of electricit be the real agent, in addition to its diminishing th nervous supply from these centres—granting suc a thing, that it has previously assisted in deranging the nicely poised elements of the atmosphere. W are, indeed, but on the threshold of the inquiry and until we get more data, we should abstain from building up very tottering and insufficient theories.

AN ACCOUNT OF THE "FLEMISH TWINS," TWO INFANTS UNITED BY THE ANTERIOR WALL OF THE ABDOMEN.

By Dr. VERHAEGHE, of Ostend.

On the 27th of May last, there was born at Er neghau, a village situate about four leagues from Ostend, a double monster (of which the accompany ing engraving is an accurate sketch); which, ac cording to the classification of Geoffrey St. Hilaire, belongs to the family Monomphalia (*one navel*), and to the genus Xiphopaga (*xiphoid* - [*cartilage swelling*).



It consists of two bodies, which are perfectly dis nct, but are united together in that extent of the bdominal parietes comprised between the xiphoid artilage and the navel. This junction is not formed y a species of band or tie; on the contrary, it con ists of an intimate fusion of the abdominal parietes f one infant with those of the other. The xiphoid artilages are curved forwards and sideways, ap roaching each other so as to unite by their sum its and form an obtuse angle. The umbilicus is ngle for the two children, and is situated at the ottom and on the anterior part of the inferior com issure of this junction. The extensibility of the arietes of the belly allows of the children being laced, the one on the right flank, and the other on he left, so that they look obliquely at each other. n consequence of this extension of the abdominal arietes, they can be made to take the appearance f a large band, or of a means of union like that of he Siamese twins.

The most natural position, and that in which the oint of junction experiences the least tension, is hat in which the two infants are turned face to face nd belly to belly; but, as we have just said, the xtensibility of the abdominal walls permitting them o lie obliquely, almost side by side, it is in this osition that they are habitually found.

This union does not constitute a simple juxta position, as one might at first be disposed to think; but there is a true and intimate fusion of the epi gastric parietes, and very probably (not to say cer tainly,) a communication of the abdominal cavity of the one with that of the other. In point of fact, the seat of the junction is resisting and elastic in all its parts; and percussion gives *everywhere* a very clear tympanic sound,—a fact which proves that beneath the finger which percusses there are hollow viscera, filled with gas (either stomach or intestine, or, perhaps, both these together). The height of this union is 68 millimetres, or about two inches English, and its thickness from before backwards is 38, or 1½. The circumference of the two bellies thus united is 47 centimetres, or about 14 inches.

The children, who are of the female sex, are well developed, nevertheless their bodies are rather small in size; the four arms and legs are equally developed respectively. There is no concord of the functions: each has a separate life; so that often the one sleeps while the other is crying and weeping, or the one eats and takes the breast while the other continues sleeping.

So also the act of defecation does not occur si multaneously in both. Syrup of violets given to the one provokes evacuations of a deep green colour; while the stools of the other are devoid of this coloration, and *vice versa*,—a fact which suffi ciently demonstrates that each of them has a dis tinct digestive apparatus.

The parents are of good constitution, and belong to the class of day-labourers. The father's age is 44 years, the mother's 38; they have previously had three children, whereof one is still living. The mother states herself to have experienced nothing at all remarkable during pregnancy.

The labour lasted a long time, and the expulsive pains were very severe. The child on the right was the first to be expelled, the head presenting: the other followed five minutes after; but, according to the midwife's statement, its feet came first. There was but one navel-string and after-birth.

These truly curious beings, whom we propose to designate "*The Flemish Twins*," have received names, the eldest that of Marie, the youngest Sophie. They continue to enjoy good health, and everything promises that they will continue to live.

The question has been proposed to me as to whether it would be possible to separate them by an operation; but the results furnished by palpa tion and percussion of the seat of junction give a strong presumption of a communication between the two abdominal cavities, and have thus dictated to me an answer in the negative.

CASES OF PLEURISY WITH EFFUSION INTO THE LEFT SIDE OF THE CHEST AND DISPLACEMENT OF THE HEART.

By C. J. B. ALDIS, M.D.,
Fellow of the Royal College of Physicians, and Lecturer on Medicine at the Hunterian School.

1. A CASE OF LATENT PLEURISY.

I first saw the gentleman, Mr. P. H., with Mr. Scatliff, of Sloane-square, on Wednesday, March 7th, 1849, when the pulse was 120, compressible, the pa tient lying on his back, but can lie on either side indiffer ently; no orthopnœa; slight cough, no expectoration; the heart beating to the right of the sternum as far as the right nipple; left side of the thorax immove able; breathes only with the right lung; intercostal spaces of the left side of the chest effaced; dullness on percussion over the whole of the same side; re spiration inaudible; no ægophony. Suffered from hæmoptysis to the extent of about a pint about three weeks previously, when he was in the country, at which period he consulted a medical practitioner and came to town, having travelled by night in a second class carriage for five hours. After his return he ex perienced pain in the back with occasional dispnœa. He occupied his mind with chemistry, and enter tained no idea of the extent of his complaint until Mr. Scatliff examined his chest on Monday, March , when he observed symptoms similar to those which I have described. It was remarkable, that the patient had been actively engaged in his occu-

pation with scarcely any inconvenience, in fact, he appeared to be in good health, excepting occasional shortness of breath. The treatment consisted of small doses of hydrarg. chlorid., haust. nitri., cum tinct. digitalis, and blisters.

March 20.—Was visited by Dr. Hodgkin, Mr. Scatliff, and myself, the former of whom confirmed the diagnosis of the two latter. The symptoms continued much the same as before; the pulse varied from 80—90. The patient took dec. sarsæ, c. sp. æth. nitric, and lin. camphor. was to be rubbed all over the affected side of the chest, and he was to be confined to his bed.

He was subsequently visited by Dr. Hodgkin, Dr. Sibson, myself, and Mr. Scatliff; the effusion gradually diminished, while the heart was returning nearer to its natural position. Dr. Sibson noticed the following symptoms by means of his chest-measurer. The first time I saw Mr. H. the expansion of the ribs on the left side was *nil*, while that of the ribs of the right side was double the amount, or from 8—20 100ths of an inch; the abdominal motion was rather more than normal in the centre, being 35 100th inch at the left side; it was only 2 or 3-100th, instead of 10. To make up for this, the motion was 20, 25, or 30-100th, instead of 10 on the right side of the abdomen. At the next examination the effusion was lessened. There was some shade of motion on the second left rib about 1 or 2 100th; the abdominal motion on the left side was decidedly increased, being from 4-6, while the exaggerated motion on the right side of the abdomen was diminished, being about 15—20-100th. The movement of the whole right side was scarcely so exaggerated as on the previous occasion. During a deep inspiration the ribs on the right side expanded about 60 or 70-100th. Those on the left side, over the 2nd to 4th or 5th, expanded about 35-100th inch; over the 6th and 7th ribs, the expansion was inconsiderable. On the 26th of May, the line of dulness just to the right of sternum, effusion lessened, heart's beat felt both to the left and right of the sternum. The following were the respiratory movements in 100ths of inch :—

	Right.	Left.
2nd rib, ordinary inspiration	15-20	5-10
Deep inspiration . .	80	45
5th rib	6-10	0-4
	40	15
6th rib	5	0
At the side	30	10
9th	10 15	0
	55	20

ABDOMEN.

	Centre.	
20	40	10

Being a marked advance towards the normal state. The patient is at present in the country.

CASE OF EFFUSION INTO THE LEFT SIDE OF THE CHEST, IN WHICH PARACENTESIS THORACIS HAD BEEN PERFORMED ON BOTH SIDES.

The patient's name was Silas Hann, aged 21, a tailor residing at Lambeth, and became an in-patient of St. George's Hospital under Dr. Chambers, on Dec. 28, 1833. Pulse 120, soft; skin warm; bowels open; urine scanty, with yellowish sediment. Complains of shortness of breath, aggravated by exertion; no palpitation; cannot lie on his left side on account of cough; cannot expand the thorax; both sides dull on percussion; was in the Westminster Hospital twenty-four weeks; left it about a month ago; paracentesis thoracis was performed between the sixth and seventh right ribs three days after admission into that institution—fluid drawn off is said to have been transparent; heart beating on the right side of the sternum; ailing six months; attacked first with weakness and cough; has had slight hæmoptysis since the operation.

℞ H. cetacei c. potass. nitr. gr. iiij.; tinct. scillæ ♏ xv.; sp. æth. nitrici ʒss. sextis horis.

℞ Pulv. ipec. c. gr. viij.; hâc nocte.

Dec. 30.—Subaxillary region of both sides dull on percussion; not affected by change of posture.

Jan. 6, 1834.—Chest exceedingly dull on percussion on both sides up to the level of about the fourth ribs; respiration inaudible in the same situation both anteriorly and posteriorly. I cannot detect any ægophony. Heart felt beating to the right of the sternum, and its sounds heard more distinctly on the right than left of sternum. Rep. haust.

℞ Pilul. hydrarg. gr. iij.; scillæ exsiccat. gr. i.; digitalis gr. ss., ter die.

10th.—Feels very faint; thinks he has made rather more water; less fluid in the left side; pulse small and frequent; skin warm and moist; tongue whitish.

℞ Pil. hyd. gr. iss.; scillæ pulv. gr. i.; ext. colch. acet. gr. ss., ter die.

℞ Haust. hydrocyan.

℞ Pil. sapon. c. opio, gr. v. o. n.; app. emp. canth. amp. lateri sinistro.

13th.—Passed a bad night; feels easier this morning; lying on the right side; no orthopnœa; breathing much relieved; the level of the dull portion of left thorax on percussion is lower; heart's action less violent and less evident than it was to the right of the sternum, but more so on the left.

Feb. 11.—Paracentesis thoracis was performed yesterday between the sixth and seventh ribs of the left side, at their angles, that part of the chest being rather prominent. About two pints and a quarter of transparent fluid, light brown, with a greenish tinge, were drawn off. It coagulated by heat and nitric acid into a solid mass. The patient felt considerably relieved after the operation; but to-day complains much of difficulty of breathing and pain about the heart. Pulse 140, very small and weak.

12th.—Died at three a.m.

13th.—*Sectio Cadaveris.*—The body, before being opened, was succussed, and fluid distinctly heard in the left side of the chest. On removing the sternum there were found about two pints of fluid, similar to that which was drawn off, and frothy from the succussion in left pleural cavity. The pleura had a deposit of hard cartilaginous lymph, varying from one-eighth to one-fourth of an inch in thickness over its whole extent, which, in some parts of the pleura cortalis, presented a slightly reticulated appearance. The lung was compressed into a small compass against the mediastinum and apex, and firmly bound down by the thickened pleura. The deposit could be peeled off from the pleura pulmonalis, leaving an apparently healthy serous surface beneath. On the right side there was a very thick deposit between the lung and the ribs, with universal and firm adhesion, so that it was necessary to separate it with the knife. The lung was then cut across transversely at the level of its root. In this situation the deposit on the exterior of the lung varied from one-half to three-quarters of an inch in thickness, and had the appearance of five laminæ, a purple layer in the centre, then a white one on either side, and again a purple lamina externally. Vessels were distinctly observable running from one to the other on separating them. These deposits extended over the whole lung, but were not always found in these regular laminæ. The white deposit in some parts had a complete tubercular appearance (like that of Dr. Baron's tubercular accretions).

The heart was considerably more to the right than natural, and was bound down in that situation by the thickening and adhesion of the anterior mediastinum. It was very small. Pericardium healthy, and contained about the natural quantity of serum.

1, Chester-terrace, Chester-square, July 7, 1849.

PROGRESS OF MEDICAL SCIENCE.

FRANCE.

(From our own Correspondent.)

THE CHOLERA.

With deep satisfaction I have to announce to ou the disappearance—at least official—of epidemic cholera from Paris. The number of cases within the last few days has been so insignificant, that Government has ceased to publish official returns of the mortality. We are thus freed from a most unwelcome visiter, and you from a subject which threatened to become tiresome in its monotony. This will probably be my last notice of the disease.

The weekly mortality does not exceed 263, distributed thus—

	Deaths in City.	Hospitals.	Total.
June 28th	23	16	39
29th	34	13	47
30th	23	19	42
July 1st	23	12	35
2nd	16	10	26
3rd	4	14	18

The number of deaths in the military hospitals, during the same period, amounted to 16, making a total of 203. Finally, the deaths in hospitals do not now exceed six or eight per day, and in the city the disease has nearly disappeared altogether. Indeed, it is a remarkable fact, that the total mortality of Paris—even including deaths from cholera—is much below the average at the present moment, and that the deaths from various causes increase as those from cholera diminish. One is reminded of Ulysses' answer to Polyphemus.

Thus we have—

	Deaths from Various Causes.	From Cholera.
29th	22	34
30th	48	23
1st	48	21
2nd	46	16

while the average mortality of Paris is between 70 and 80 per day. Perhaps it is, that all the weakly subjects have been removed by the disease.

The atmospheric temperature has certainly no influence on this fortunate result; for at the moment I write the heat is overwhelming. Chevalier's thermometer on the *Pont Neuf* indicates 28½ centigrade in the shade,—a temperature equal to that of the hot bath, and warmer by eight degrees than the average temperature of Algiers.

The prospect of the speedy extinction of the disease, renders it, perhaps, less incumbent on us to record the various specifics and modes of treatment which are daily proposed, and many of them by men who ought to know better. M. Worms, one of the Physicians of the Military Hospital of Gros-Caillou, speaks in the warmest terms of the efficacy of an acid treatment. It is true, indeed, that his experiments were confined to comparatively mild cases. The remedy employed by Dr. Worms was, he informs us, the "mineral lemonade," (the French, you see, can make *bulls* as well as other people,) composed of twenty grammes of dilute sulphuric acid to two pints of water. Dr. Worms endeavours to explain the efficacy of the "acid treatment," on the supposition, that asiatic cholera is a pestilential exanthema, excited by emanations, which modify the electric phenomena of the body, and cause an almost absolute predominance of the *alkaline* principle in the blood, with suppression of the *acid* element.

Unfortunately for this doctrine, the researches of Dr. O'Shaughnessy have demonstrated exactly the reverse. M. Piorry, on the other hand, with whose medical eccentricities we have been long familiar, attributes the fatal result of cholera to a deficiency of water in the blood. As it would be useless to introduce the fluid into the stomach or lower bowel, M. Piorry hit on the ingenious idea of throwing it up into the bladder. A subject was soon found. "The veins (says Professor Piorry) were empty; the arteries nearly pulseless; the heart and liver diminished by one half in size (!!!); the lungs excessively sonorous, and the abdomen charged with fluid. Nearly two pints and a half of water were thrown up into the bladder within an hour. By the plessimetre it was ascertained that absorption took place rapidly; for, as soon as the bladder acquired a certain size, it diminished by absorbing the fluid. At the same time the veins became filled, the pulse was firmer, the heart and liver increased in size, and the patient's state was greatly meliorated."

What became of him ultimately the "Chronicles" say not; but he is probably with the "Capulets."

MUSCULAR ACTION AND ELECTRICITY.

At the last meeting of the Academy of Sciences, M. Arago read the following note from the illustrious Humboldt, relative to the above interesting subject:—

"Neither the jeers of certain editors on German credulity, nor the negative results obtained by two of our first natural philosophers, have changed my convictions regarding the influence of muscular action on the movement and direction of the galvanic needle. We have recently repeated our experiments at M. Reymond's, and I invited M. Mitscherlich to attend, knowing his great dexterity in the management of delicate instruments. On giving tension to the muscles of the left arm, the needle was instantly made to move by M. Mitscherlich; and that in the direction predicted by M. Reymond, viz., one indicating a current from the hand to the shoulder of the arm which was in action. On stiffening his right arm, M. Mitscherlich made the nee le move in an opposite direction, and traverse a smaller number of degrees; this arises from the fact, that the energy of muscular contraction is not always the same in both arms. Occupied, as I have been, for more than half a century with physiological researches of this kind, the discove y of M. Reymond has deeply interested me. It is a vital phenomenon, rendered sensible to us by an instrument of physics."

In connexion with the same subject I may mention the result of some curious experiments recently made by M. Ducros. The conductors of a galvanometer were applied, one to the forehead, the other to the neck. The needle remained steady and marked forty degrees. The patient's thigh was now strongly pinched and, under the influence of the pain, the needle passed to eighty degrees with great rapidity. The experiment, frequently repeated, gave the same results, and M. Ducros hence concludes "that all causes which increase vital activity react on the galvanic needle at a distance from the point of their immediate action."

PARALYSIS OF THE BLADDER CURED BY GALVANISM.

An interesting case of this kind recently occurred in the practice of M. Monod, Surgeon to the Maison de Santé. A woman, fifty-seven years of age, labouring under an incurable disease, endeavoured to commit suicide by means of charcoal fumes. She was relieved in time, but an obstinate paralysis of the bladder remained. M. Monod suggested a trial of galvanism to the neck and fundus of the bladder. On the first application the patient was enabled to make water without assistance, and her recovery was rapid.

NEW INSTRUMENT FOR PILES.

M. Amussat has invented a new instrument for the eradication of these troublesome companions. It is a small forceps, somewhat like a dissecting forceps. The points, or rather the branches, for one-third of their length, are split, and receive two small hollow cylinders, which are charged with Vienna caustic at the moment of operation. The branches of the forceps are brought together by a screw, and the base of the pile attached by constriction and cauterisation conjointly. When the instrument has acted for some time, a jet of cold acidulated water is directed on the part, to remove the superfluous caustic and allay the sensation of burning. M. Amussat has already applied his instrument in practice with complete success.

A NEW DISINFECTING FLUID.

The Sanitary Committee, or Board of Health, recently appointed, has just made some interesting experiments, which are worthy of record.

You are well aware of the deplorable state of the water-closets and other *lieux d'aisances* in this capital of the civilized world. Although Paris had made considerable progress, within the last ten years, in the improvement of these most necessary sanctuaries, their condition still remains barbarous, particularly in the numerous schools devoted to the reception of the children of the poorer classes. The charity schools of the Rue Brise, Miche, and two other establishments of the same kind—regular pest-houses—were handed over to MM Audiat and Labolonye for the purpose of making some experiments with a new disinfecting liquor,—a solution of nitrate of lead. The cess-pools alluded to, I may remark, were so infected that it was impossible to approach them without being almost suffocated, while the ammoniacal vapours penetrated through all the class-rooms, rendering their habitation intolerable. A simple washing of the infected localities with the disinfecting fluid, and a few aspersions, completely removed every trace of disagreeable odour. The experiments were continued for fifteen days, and the Board ascertained that no development of obnoxious smell occurred before the third day, when it was easily suppressed by a fresh application of the fluid. The Board of Health announces its conviction, from these and other experiments, that we now possess a means of completely disinfecting all *lieux d'aisances*, and it has formally invited the Corporation of Paris to take immediate steps for applying this principle to the purification of the numerous charity schools and asylums throughout the city. The nitrate of lead possesses a much greater disinfecting power than the chloride of lime. It might, perhaps, be well to compare its powers with those of the chloride of zinc.

SCOTLAND.

[From our Edinburgh Correspondent.]

At the Meeting of our Medico Chirurgical Society, on the 4th current, Dr. Hughes Bennett read a Paper on the local treatment of Chronic Eczema and Impetigo. The design of the Paper was to point out the efficacy of a simple plan of local treatment which he had found successful in several cases of long standing. After noticing the frequent connexion of the acuter forms of eczema with constitutional disease, or derangement of the general health, as with strumous tendency in the young, and, in after life with dyspeptic disorder and the oxaluric, phosphatic, or uric diathesis, he laid it down as a rule that generally, in proportion as eczema becomes more chronic, it is the less dependent on constitutional disturbance. The form of eczema in which the simple treatment he had to recommend had been so successful was eczema with impetigo in a chronic state, or the chronic form of what dermatologists term eczema impetiginodes. Dr. Bennett distinctly regarded this disease not as a mere form of eczema, approaching by its subsequent effects on the integuments to impetigo, without losing its vesicular character, as Bateman taught, but as a combination of the two diseases, an intermixture of the vesicles of eczema with the pustules of impetigo; an idea which the last named author hints at, but hardly adopts as the character of his species impetiginodes,—the truth being, that the co-existence of two or more cutaneous diseases on the surface at once is an observation which it has required time to mature. He dwelt particularly on the obstinacy of eczema impetiginodes when it affects such parts as the seat of the whiskers, the beard, or the pubes. He seemed inclined to regard the *crusta lactea* of authors as an eczema impetiginodes of the face. He said, that the simple treatment he had found so successful probably did not differ much from mere water-dressing; but he had to state the facts as he had observed them. This treatment consisted in the continued, not the mere occasional application, of a weak alkaline lotion to the affected part. Two drachms of subcarbonate of soda were dissolved in a pint and a half of water, and lint wet with this lotion was kept in exact contact with the eruption, evaporation being prevented by a covering of oiled silk or gutta-percha cloth. In proof of the efficacy of this simple treatment, Dr. Bennett recounted several obstinate cases; one in which the disease had affected a gentleman's face at the roots of a thick black whisker; this disease had lasted for a long time, but began to yield as soon as the patient consented to the removal of the whisker, so that the lotion might be applied exactly to the seat of the eruption. In a second case the disease was seated at the roots of the beard, and this also was cured as soon as a proper mode was fallen upon of adjusting the wet lint to the part. In a third case, the disease was on the pubes and adjacent parts, and had resisted some of the ordinary modes of treatment for eight years. The cure in this last case was more tedious, owing not merely to the obstinacy of an affection which had lasted so long, but also to the difficulty of complying with the requisite conditions of the treatment, owing to the extent and inequality of the surfaces where it had its seat. But within three months from the commencement of the treatment the disease had entirely disappeared. Dr. Bennett attributed the cure in these cases wholly to the local treatment, though in the first the arsenical solution, in small quantity, had been employed simultaneously for a short time, and in the last the patient had gone to Harrogate, and used the waters before the complaint had altogether disappeared. In some of the cases in which the crusts were particularly thick, poultices were applied before the lotion was resorted to.

A short discussion followed, in which various remedies were referred to. Dr. Maclagan, sen., who was in the chair, agreed with Dr Bennett, that ointments were generally unserviceable in chronic eczema, and approved of his treatment, particularly in so far as it included the plan of the water-dressing. Dr. John Gairdner spoke of the beneficial effects of the iodide of sulphur, twenty-five grains to the ounce of lard, as suggested by Biett, and formerly recommended to the Society in ecyema, by the late Dr. Hay. Dr. G. Paterson spoke in favour of the treatment proposed by Dr. Neligan, of Dublin, as analogous to that recommended by Dr. Bennett. Dr. William Gairdner detailed the method of using the flesh brush, as practised in some of the Parisian Hospitals. Dr. Fleming referred to the dry treatment by wheat-flour, practised by Devergie in certain forms of eczema, which disagreed with every kind of lotion, and doubted if Dr. Bennett's plan would have very extensive success. He considered the plan defective as a rational method, since alkaline applications must destroy the natural sebaceous secretion of the skin, and instanced the case of washerwomen, who were subject to eczema, from the effects of the alkali of the soap on their hands and arms. Dr. Bennett contended that but a comparatively small number of washerwomen were ever affected with eczema, and that, if the alkali of the soap was hurtful to them, it was owing to its being allowed to dry successively on the surface, and so to irritate. He maintained that the general effect of alkaline applications in cutaneous diseases was not irritant but sedative, diminishing tingling, itching, heat, and other uneasy sensations. Dr. Douglas Maclagan insisted on the necessity of examining the state of the urine in every case of obstinate cutaneous disease; and Dr. Bennett mentioned that immediately after Dr. Begbie's late paper on oxaluria was read before the Society, crystals of oxalate of lime had been sought for and detected in the urine of a patient in the clinical wards, affected with obstinate lichen, and that on the use of nitro-muriatic acid the disease had quickly disappeared.

Mr. Struthers next read a short paper, illustrated by diagrams, on the use of the oblique muscles of the eye. Mr. Struthers described the motions of the eye as consisting of a series of rotations on different axes, namely, the vertical, the transverse, the oblique, and the intermediate, adding that the eye had besides the power of rotation on the optic axis, which, in reference to the eye itself is the antero-posterior axis. The design of the paper was to show, by considerations drawn from comparative anatomy, that the use of the oblique muscles is to produce rotation of the eye on its antero-posterior axis. He pointed out the disposition of the oblique muscles of the eye in the three inferior orders of the vertebrata, as necessarily leading to the inference, that, in that portion of the animal kingdom, such is the office of these muscles. Inasmuch as in birds, reptiles, and fishes, the oblique muscles arise in common from the inner side of the orbit to pass in a diverging manner, the one upwards and outwards to the upper, the other downwards and outwards to the under surface of the eyeball, that this must be regarded as the normal plan of the oblique muscles; but that in mammals these muscles have virtually the same disposition, since the

trochlea at the inner part of the orbit is, in effect, the fixed point towards which the eyeball turns when the superior oblique acts. The practical conclusion drawn by Mr. Struthers from this view is, that the division of the inferior oblique muscle, as proposed by some in certain forms of strabismus, must be totally useless.

The plan of the paper did not lead the Author to the consideration of the physiological uses of the rotation of the eye on its antero posterior axis. Neither did he attempt to show why, in the case of the superior oblique muscle, there is a deviation in mammals from what he considers the normal disposition of the muscles as displayed in the structure of birds, reptiles, and fishes. It is, perhaps, quite correct to say, with Mr. Struthers, that the normal disposition is exhibited in these three inferior orders of vertebral animals; yet the development of the same muscles is plainly higher in mammals,—the superior oblique in the latter being rendered more efficient for its purpose, whatever that purpose may be, by being made of greater proportional length. The subject is plainly one of considerable interest, and has a practical bearing beyond the subject of strabismus, since the division of one or other of the oblique muscles has been believed, among other kinds of mystery, to be useful in myopia,—among the authorities for which, it may be remembered, are Adams, in this country; Bonnet and Guerin, in France.

AMERICA.

ON THE ARRANGEMENT OF THE AREOLAR SHEATH OF MUSCULAR FASCICULI AND ITS RELATION TO THE TENDON.

Dr. Joseph Leidy writes (in the proceedings of the same Society):—Well known is it, that the fasciculi of fibres of the muscles are surrounded by sheaths of areolar tissue, but the arrangement of the filaments of fibrous tissue forming the sheaths, and their relation with the tendon, I think has not been properly pointed out. From repeated observation, I have found that the filaments of fibrous tissue cross each other diagonally around the muscular fasciculi, forming a doubly spiral extensible sheath. None of the filaments run in the direction of the length of the fasciculi, and but few are transverse. Many of the filaments of the sheath form an interlacement in the same diagonal manner with the filaments of the sheaths of neighbouring fasciculi. This arrangement is readily distinguished, if several fasciculi be drawn slightly from each other upon a plate of glass, and the intervening areolar tissue viewed beneath the microscope. When the filaments reach the rounded extremities of the fasciculi, they become straight, and in this manner conjoin with the tendinous filaments originating at the extremities of the muscular fibres. The importance of this arrangement can be readily understood; from the diagonally crossing course of the areolar filaments, comparatively inelastic in themselves; the sheath is rendered elastic, thus permitting the muscular fibres freely to move without their action being interfered with, while at the point of attachment of the fasciculi, where any elasticity would be worse than useless, from the fact that part of the muscular action would be lost in the mere extension of an elastic substance, we find the filaments arrange themselves so as to become part of the inextensible tendon.

SPURIOUS CHEMICALS.

The *Pharmaceutical Journal* remarks, that a system appears to have prevailed to a considerable extent, not of adulteration, but of the wholesale substitution of comparatively worthless compounds, for valuable and powerful medicinal agents. Within the last few years compounds of valerianic acid with oxide of iron, with oxide of zinc, and with quina, have been introduced into medical practice as efficacious remedies, especially in hysteria, and other affections of the nervous and uterine system, and in fevers.

Citrate and tartrate of iron, flavoured with a few drops of oil of valerian, has been extensively supplied for valerianate of iron; and acetate of zinc, flavoured in the same way, has been substituted for valerianate of zinc; and these spurious compounds have been sold at prices which, although defying competition on the part of the genuine valerianates, have nevertheless been twenty or thirty times greater than the commercial value of the substituted articles. For valerianate of quina the disulphate of that base, with a little oil of valerian to disguise it, has been in like manner substituted.

The means of detecting the frauds are as follows:

1. *The true valerianates* have a sour, disagreeable, and very persistent, although not powerful smell, which is essentially different from that of oil of valerian.	1. *The spurious imitations*, being flavoured with oil of valerian, smell strongly of that substance.
2. *The true valerianate of iron* is almost entirely insoluble in water; and the valerianate of quina fuses into oily globules in boiling water, and dissolves with difficulty. They are both freely soluble in spirit.	2. *The spurious valerianate of iron* is perfectly soluble in water, especially when aided with a little heat; it is insoluble in spirit. *The spurious valerianate of quina* is soluble in about thirty parts of boiling water, and, as the solution cools, it is deposited in acicular crystals, which have the bitter taste and other characters of disulphate of quina.
3. *The true valerianates*, when mixed with a little diluted hydrochloric acid, are decomposed, and the valerianic acid being set free, rises like oil to the surface of the liquid. To get this character it is necessary to operate upon from five to ten grains of the specimen, and to avoid the use of too much of the diluted acid, as valerianic acid is soluble in about thirty parts of water. The liberated valerianic acid has the sour, disagreeable, and very persistent smell, which to a slight extent is perceived in its salts, but it is readily distinguished from that of oil of valerian.	3. *The spurious valerianates*, when added to water, will generally yield a thin film of oil, which floats on the surface, and is easily detected as oil of valerian. On heating the liquid this oil is driven off, without otherwise decomposing the salt, and no further indication of valerian will afterwards be obtained. On treating them with diluted hydrochloric acid there is no valerianic acid set free.
4. *The true valerianates*, when mixed with a little proof spirit, and one-fourth the volume of oil of vitriol is then carefully added, will yield valerianic ether, which is recognised by its agreeable fruity smell, somewhat resembling that of the pine-apple. This ether can hardly be distinguished in smell from butyric ether.	4. *The spurious valerianates* yield no valerianic ether; but the *spurious valerianate of zinc*, when treated as above, yields acetic ether, which is easily detected.

The foregoing tests are sufficient to distinguish the true valerianates from the spurious substitutes above-mentioned; but there is reason to believe that other substitutions have been practised, although not so extensively. We have met with a specimen of so-called valerianate of iron, which is evidently not what its name indicates, and yet it contains neither citrate, tartrate, nor acetate. It is in the form of a brown powder, insoluble in water and in spirit. It smells of valerianic acid, but, on being decomposed with hydrochloric or sulphuric acid, yields no appreciable quantity of the oily product. We have not had time to submit this specimen to a careful examination, but it is easily distinguished from the true valerianate of iron by its being insoluble in spirit, while the latter dissolves freely in this menstruum, even without the application of heat. This suspected specimen is also distinguished from the genuine by its behaviour when heated in a platinum crucible.

The true valerianate, if carefully heated, fuses, gives off valerianic acid undecomposed, then as the heat is increased, burns with a luminous flame, and emits very offensive odour.	*The suspected specimen* does not fuse or give off any appreciable quantity of valerianic acid. The vapour does not readily inflame, and the odour emitted is not offensive.

The residue of oxide of iron is the same in both specimens, namely, twenty-five per cent., and the acid originally present is organic.

Where mere adulteration is practised, the detection of the fraud is much more difficult than it is in the cases to which we have hitherto alluded, the cupidity of the manufacturer having fortunately, in these cases, blinded his discretion, so that a speedy exposure of the practice was inevitable.

TO SUBSCRIBERS.

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THE MEDICAL TIMES.

SATURDAY, JULY 14, 1849.

We lately took occasion to offer, in our editorial capacity, some few remarks on the maladies which formerly prevailed and committed such fearful ravages among our population; and, reflecting on the once marshy, partially cleared, and uncultivated state of the country,—on the close, confined, dirty, and unventilated condition of the narrow streets of the cities,—we arrived at the conclusion, that we need be at no loss to ascertain the sources whence these diseases sprang; and then, considering the present improved condition of the country at large, the admirable police of our cities, and the active, intelligent, and industrious habits of the people, we ventured to express our conviction, that, since many diseases had totally disappeared from among us, and others been greatly mitigated, so also those of the present day, fatal as they were, would, in like manner, fly before the advance of science. We will now take a view of the other side of the picture, and inquire into the truth of the assertion, that disease has increased with the progress of civilization. There can be no doubt, that too luxurious living,—idleness, intemperance, mental exertion, agitation, and strong excitement, worldly cares, the fluctuating nature of commercial speculations and the continued struggle to meet the daily and accumulated wants of an excess of refinement,—give rise to many diseases. We accordingly find, that gout, apoplexy, palsy, melancholy, lunacy, dyspepsia, with a train of complaints generally denominated nervous, are among the maladies which have increased. Since the beginning of the eighteenth century, out of every 21,000 deaths, from 2,000 to 3,000 have been cases of apoplexy or palsy. Gout is more prevalent than formerly; and cases of dyspepsia, or stomach complaints, are now so common

in our cities, that, according to the most eminent writers on those diseases, every second man we meet is probably dyspeptic. From the close and vitiated air of cities, and the unwholesome occupations of many labourers and artisans, affections of the lungs have become much more frequent. Of the deaths in the metropolis, out of every 21,000, from 4,000 to 5,000 are said to die of consumption. It must here be observed, however, that, from superior skill, care, and attention, a greater proportion of weak and sickly children are reared than in a less civilised state of society.

Fevers of all kinds, though still occasionally prevalent, are much less so, and of a less fatal nature, than formerly. When they do occur they generally originate among the poorest of the community, and after unfavourable seasons and years of scarcity; and agues and intermittents are rarely met with except in the marshy districts.

It is unnecessary to appeal to Tables to show the great increase, of late years, in the average duration of human life; for no one will, we think, be inclined to deny, that although increased refinement has swelled the amount of chronic diseases, yet these, although sufficiently annoying, are, in the aggregate, less fatal to the human constitution than the acute maladies which formerly prevailed.

It is also unquestionable, that the rate of mortality is greater among the poor than the more prosperous classes of society. This may be accounted for from the superior comforts of the latter, and their exemption from severe labour; for, however essential due exercise is to the enjoyment of perfect health, it is certain that intense toil shortens existence. Few among the hard-working classes live beyond fifty or sixty years.

Another circumstance to be remarked is, the change in the relative healthiness of the seasons. Formerly more deaths occurred in autumn; the next season in unhealthiness was summer, and the smallest proportion of mortality took place in winter and spring; whereas at the present time the reverse of this is the case. Now, as the seasons have undergone no change, the peculiar unhealthiness of autumn and summer, is to be accounted for from the uncultivated, marshy state of the country, and the filthy condition of the large cities. In all partially cleared countries the same results are found, the most unhealthy seasons being the summer and autumn, from the occurrence of marsh miasma, and in all crowded and ill-regulated cities, the warm season is the most to be dreaded. In this country, again, the cold of the winter and spring months is what we have chiefly to contend against. A severe frosty winter has always been looked upon as the healthiest season we can have. Although such is generally the popular opinion, the reverse would appear from numerous observations to be the case. Both extreme cold and extreme heat are prejudicial to health; and moist weather, if mild, is preferable to very cold—nay, such is even healthy weather.

On a superficial view of the matter such opinions are somewhat startling. On a pure, dry, frosty day, the healthy and robust are vigorous, buoyant, and glad; they have animal energy sufficient to resist the cold. But the young and the aged, the feeble and the sickly, sink by hundreds under its chilling influence. In the winter months, by far the greatest proportion of deaths takes place among children; and it is then that apoplexy and diseases of the aged are most prevalent. Extreme heat is also fatal to the young and the aged; and on the whole, our healthiest seasons are found to be those which are the most temperate.

Sudden variations of temperature, too, are generally supposed to be unfavourable to health; but, although it is a maxim as old as Hippocrates, that neither heat nor cold are in themselves pernicious, and that the rapid transitions from one to another are alone to be dreaded; yet those seasons in which extreme degrees of temperature have taken place, and that to a remarkable extent, have not been found to be unusually sickly.

In conclusion, it may be worth our while to inquire, whether any new diseases have sprung up among us—whether Pandora's box has been replenished, or, whether it remains the same as when first opened on earth, to torment poor mortals. Many diseases, now well known and accurately described, were, it must be allowed, but obscurely or imperfectly hinted at by the ancient medical writers. Many diseases, too, are almost solely confined to particular countries or regions of the earth, and were of course unknown to old authors; but, still, there are sufficient allusions to a great proportion of the train of maladies incident to humanity, to make it appear pretty evident, that our present list of diseases has come down to us from the remotest ages. Owing to the particular circumstances of climate, locality, and many other adventitious causes, diseases sometimes prevail in a mild or an aggravated degree which very much modifies their character. Many, too, often appear, after long intervals, under various types; but, that the real nature of the maladies and their distinguishing peculiarities remain pretty much the same, we do not believe can be called in question.

The ills to which flesh is heir may appear aggravated in modern times; but this, in all probability, may arise from increased medical knowledge, which has taught men better to distinguish and classify them. It was not till the time of Boerhaave that the difference between rheumatism and gout was clearly discerned. The same might be said of many other maladies; and in this way the popular complaint, that diseases prevalent in the present day were never heard of among our fathers, may be well explained.

But, in considering the effects of increased civilization in improving the public health, the question naturally arises, how far this has been aided by improvements in medical science. We shall find that these have been considerable in modern times. The investigation of the structure and functions of the human body and the laws of animal life, but especially of the diseased action of the system, must, probably, ever be accompanied with extraordinary difficulties; yet great advances have nevertheless been made, and a much more accurate knowledge gradually diffused. The advance of chemical science, too, has wrought a wonderful revolution in the composition and prescription of remedies. The properties and actions of medicines are now much better known, and the list much simplified. The multifarious and heterogeneous farragoes of former days, in which some fifty or sixty various ingredients, of quite opposite qualities, were confounded in one potion, would not now be tolerated. Amid the general diffusion of knowledge, too, medical information is becoming much more common among all ranks; and an acquaintance with the structure and operations of the body—a knowledge certainly of the highest interest and the most practical importance—is ardently sought for.

Medical men are no longer held in superstitious awe, and, consequently, pedantry and mysticism have ceased to prevail. The days are gone by when Paracelsus alone possessed the knowledge of opium and mercury. There are now happily no secrets in the art, and the poorest student of Æsculapius may command the same means of information as the more highly favoured. The discoveries in anatomical knowledge have rendered the improvements in surgery even more striking than in relation to medicine. All tampering with nature is laid aside with the attempts to procure the philosopher's stone and the elixir of life. Nature, herself is no bad physician; and he who directs his art to aid her efforts, is best able to worship worthily at her shrine.

From this short sketch of diseases past and present, it would appear that increasing arts, increasing refinements, and what some are pleased to call luxuries, are not such very dreadful things after all. For ourselves, we are inclined to think that "nothing which is good can be bad;" and that, though we may now and then have a twinge of the gout,—that now and then a few inveterate topers or turtle-fed Aldermen may receive an apoplectic hint,—and that a portion of the community may be annoyed with blue devils, vapours, and the whole arrayed enemies of the dyspeptic hypochondriac,—yet, on the whole, that health and enjoyment are more universally diffused—that we have not, as formerly, a useful population cut off by sudden maladies, or disfigured by loathsome diseases; and although of late cholera has spread terror and lamentation over the land, yet even its visitations are at prolonged intervals. We bow, indeed, with all submission to the Hand by whom this dreadful scourge is sent. We try to feel that even it may be to our advantage; and we do not despair or even doubt, that, in His proper time, and in His own way, our ignorance of its nature may be permitted to be removed, and the disease conquered and overcome, even as others equally fatal.

And, again, let us compare our present homes with those of other days—of those of which Dryden tells us, where

> "The parlour window stuck with herbs around
> Of savory smell, and rushes strewed the ground."

Are not our regularly built, our airy and comfortable towns, where science, and wealth, and the enterprise of successive generations, have produced such an admirable system of order, convenience, and security, infinitely

preferable to the crowded, and polluted, and pestilent abodes of our ancestors? Are not our neat, and elegant, and warmly carpeted rooms superior to the clay floored, straw and rush littered apartments of Queen Elizabeth? And is not a highly cultivated, grain-waving country, a paradise compared to the gloomy forests and untilled marshy, and neglected soil of our forefathers? Have we not our gardens teeming with every variety of fruit and vegetable, where formerly only docks, and coleworts, and crab-apples grew, while in winter do not the supplies of art leave us little to regret the luxuries of summer? There is a cheering prospect, then, in the extending progress of knowledge towards the melioration of the human species; and among the other recommendations of advancing civilization, it is consolatory to perceive, that the sum of human suffering has been lessened,—that many of the most dreaded diseases which afflict mankind have either been wholly extirpated or very much mitigated,—that the nature and treatment of others are better understood,—that of all those who are born, a much greater proportion arrive at maturity,—and, consequently, that the average duration of human life has been prolonged.

SMOKE.

There is a tradition that, in a remote and mythical era, London was not "smoky London;" that there was a time when a Cockney did not consider the natural colour of his heaven to be a faded blue, the hue of his foliage to be a dirty green, nor wandering "blacks" to be the natural denizens of his atmosphere. Antiquarians, piercing through the dust of ages, have even declared that the Londoner of the Thirteenth Century preserved his lungs from carbonaceous contamination, by summarily punishing those who injured the purity of his air. Within the City walls he permitted no factory to pour forth its turbid streams, nor fiery furnace to darken all the land with smoke. Even so late as the reign of Edward the Third, it is said that the extreme penalty of the law was inflicted on a rash manufacturer, who carried on his sooty trade within the interdicted space.

Since those days, manufacturers have gone ahead, and have used our atmosphere very much as if it belonged to them alone, and was not the common property of us all. "As free as the air we breathe" is a proverb which any time these hundred years has been falsified by the fact. Everywhere in this country we breathe an air which is anything but free; for it is loaded with foreign particles, and its native oxygen and nitrogen are cruelly compressed or thrust aside by the vile carbonaceous canopy under which our unscrupulous merchant-princes compel us to dwell. And the worst of it is, that we have become so accustomed to this usurpation, that all our lives we go on swallowing coal, blackening our lungs, spoiling our complexions, and impairing the whiteness of our linen, with the submission of men without hope, and with the resignation of those who suffer from an irremediable evil. Nay, in the very abjectness of slavery, we defend our oppressors; we cannot see an immense chimney pouring out its sooty particles, without taking it as the emblem of commercial activity; we compare a steamer enveloped in its dirty cloud to a volcano whose overhanging mists testify to the mighty forces which hurled them from below; we gaze at night, from the Surrey hills, on the lights of London, reflected from the enveloping smoke, with a profound sense of the life and vigour which is going on beneath that *opaque* covering. And thus, because we are a great manufacturing people, and because we cannot disconnect the ideas of factories and smoke, we see, without an attempt to prevent it, the once verdant hills and dales of Staffordshire gradually denuded of verdure like the sand-mounds of the desert, and the great cities of Yorkshire and Lancashire daily becoming more like the cities of miners, who live in the bowels of the earth, than to the dwellings of men who are supposed to have an unintercepted and blue sky above them.

And surely here is a great mistake. Manufacturing greatness is not measured by soot. If we could burn our coal properly we should at once free ourselves from this intolerable nuisance, and at the same time actually benefit the manufacturer. If we could insure *complete* combustion we should have no smoke. We should still, of course, have carbonic acid, but we should have no small particles of unconsumed carbon escaping into the air. The existence of smoke gives evidence of waste of fuel. Let those who are interested in this subject read the Report of Sir Henry De La Beche and Dr. Playfair. The difficulty is to burn all the charcoal. We do not deny that there are practical obstacles to this; still it might be done and to a much greater extent than is accomplished under the present careless and irresponsible mode of proceeding. Every manufacturer should be compelled to do it; and the compulsion would even be beneficial to himself. In Sheffield, where an Inspector kept the manufactories in order, the smoke nuisance was for a time much diminished, and why should we not have in London the same regulation.

We are happy to see that a Bill has been introduced into Parliament on this subject, and has gone into Committee. We have seen great deeds accomplished of late years in the Lower House: the Corn-laws have been abolished, the Navigation-laws abrogated. If the Legislators will do away with our smoke, they will have accomplished another improvement deserving of applause. The Legislature seems, however, to feel that there is an obscurity about smoke; and the short debate we have at present had, has done full justice to the opacity of the subject. Honourable Members had some difficulty in defining the evil upon which they were about to legislate, although to assist them at the very moment the question was under debate, a sudden eruption of smoke, introduced through the ventilating apparatus in the House of Commons, was an apt illustration of the expediency of doing something. What is "opaque smoke"? asked Mr. *Bright*. "Smoke which you cannot see through," was the logical answer of Mr. Mackinnon, and at the moment the black cloud rising between the two senators, confirmed the unanswerable truth of the definition.

We shall allude at some future time to the evils inflicted on the human frame by this constant inhalation of smoke. Although Science has not yet absolutely traced the injuries which result from it, we cannot but suppose that injury must exist. When inhaled in very large quantities, we know that serious mischief does ensue. True, Nature in her conservative power, ever endeavours to save us from all pernicious consequences. She stores up the fine particles of carbon in the intercellular pulmonary passages, away, if possible from the fine membranes on which the vascular network is spread out. She, perhaps, even absorbs gradually the carbon into the blood, and then carries it off in the respiratory act. But yet we know that this foreign introduction can hardly take place without some impairment of healthy respiration, and some corresponding depression of vital power. As Medical men, we need not demand that the exact influence of smoke inhalation shall be proved; it is enough for us that it is unnatural, and, therefore, must be hurtful. On medical grounds, we desire, then, that the Legislature deliberate on the subject.

THE MEDICAL CORPORATIONS OF EDINBURGH AND GLASGOW.

According to our Edinburgh Correspondent, a friendly meeting between a party of Medical men of that City and some of their brethren in Glasgow, was lately the topic of Edinburgh discourse. But now, a source of dissension between the Medical Corporations of the two cities has transpired. It appears, that, to facilitate the arrangement of the provisions regarding Scotland in the expected Medical Reform Bill, conferences took place last summer between delegates appointed, on the one hand, by the two Edinburgh Royal Colleges; and, on the other, by the Glasgow Faculty of Physicians and Surgeons. The twofold basis of these negotiations was the surrender, by the Glasgow Faculty, of the privilege of granting Diplomas, and the admission of its members into one or other of the Edinburgh Colleges, in the event of these becoming the Royal Colleges of Scotland. Certain points were agreed on,—other points were referred to arbitration; but no decision on the disputed matters was given, owing to the Bill having been abandoned. The subject was taken up again this year, and the Glasgow Faculty consented to refer anew to arbitration all the points in dispute, with the exception of one, which they resolved to hold by in Parliament; namely, that a Board of Glasgow medical men should retain the power of examining Glasgow students for the new diploma to be issued, as was proposed, in the joint name of the Royal Colleges of Physicians and Surgeons of Scotland. This the delegates of the Edinburgh Colleges resisted, on the ground, that it would be equivalent to continuing the Glasgow Faculty as a licensing body with a new status to their diploma; contending, further, as the members of the Glasgow Faculty, though no longer to constitute a Medical Corporation, were to be entitled to act as assessors in the examinations for the degrees of Doctor and Bachelor of Medicine in the University of Glasgow; and as sufficient funds were to be provided to keep up the Faculty as a Literary Institution, that their opponents were asking more than their present position gave them any claim to obtain.

So long as these debates were confined to the delegates, the Profession at large, in the two cities, knew little of what was going on; but, in the course of the past month, the Glasgow delegates issued a Circular, appealing from the delegates to the Fellows, individually, of the two Edinburgh Colleges; this produced a reply from the Edinburgh delegates, explaining the whole question to their constituents, and this again a counter-statement from the Glasgow delegates,—so that the whole matter, though not actually published, being in print and extensively circulated, is now quite *publici juris.* The Glasgow Manifestoes do not urge so strongly the argument that, in the event of a new Act, they are promised less than an equivalent for what they hold at present, as that the Glasgow Faculty, being an old chartered body in a great city, and, therefore, as much entitled as the two Edinburgh Colleges to become a Royal College of Scotland, is unjustly denied a share in that extension of privileges which the two Colleges of the metropolis of Scotland, on becoming national, are to obtain. The main point at issue, then, is the present status of the Glasgow Faculty of Physicians and Surgeons. The Edinburgh arguments proceed on the principle of simple compensation, and claim credit for offering a full equivalent for the value of the surrender. The Glasgow Faculty think their position entitles them to a continued existence as a local licensing body, with a national name to their diploma.

It will be for Parliament to determine, if the question ever come to that stage, whether the Glasgow Faculty have reason in their claim. The mere argument of right from their charter will hardly suffice in this charter-breaking age; but Parliament will not refuse to listen to a plea drawn from the repute of the Glasgow body among the Medical Institutions of the Kingdom, if derived from the celebrity of its members in the annals of Medicine, from the efforts it has made for the improvement of Medical education, from the credit of its Examinations with the Public Boards, from the esteem in which its diploma is held in the country at large, as a qualification for practice, and for the liberality with which it has been accustomed to exercise its corporate privileges.

UNIVERSITY COLLEGE AND ITS RECENT APPOINTMENTS.

We some time since expressed the interest we felt in the appointments that must during the summer be made by the Council of University College to the Chairs of Medicine, Clinical Medicine, Pathological Anatomy, Materia Medica, and Medical Jurisprudence. To choose five new Professors, able and willing to undertake the responsible posts, was a duty involving a risk of no trifling nature to the future well-being of the Institution. Of the wisdom displayed in the choice of a successor to Dr. Williams, we have already stated our opinion, and we believe that opinion is the one universally entertained by the Profession. An equally judicious appointment has been made to the Chair of Clinical Medicine. Dr. E. A. Parkes was some years since one of the most distinguished pupils of University College. He gained high honours at the University of London, and received from that Institution a recommendation for an appointment to an assistant surgeonship in the army. He served some years in India, and soon after his return to England, in 1845, was elected assistant-physician to University College Hospital. The Works of Dr. Parkes on Cholera, Dysentery, &c., have earned for him a high and well-merited reputation, and we believe no appointment could have been made more agreeable to the pupils of the College, or more consonant with the wishes of those who desire the success of the Institution.

We trust the other Chairs will be filled as judiciously as have been those of Medicine and Clinical Medicine. If they be, the College will have derived new life and vigour from losses which at first threatened it with serious injury.

LORD ASHLEY AND THE BOARD OF HEALTH.

We see Lord Ashley has asked leave to introduce two new Bills into Parliament, to facilitate the operations of the Central Board of Health. We wish he could make an effective Act to introduce a few grains of Medical logic into the heads of his fellow-members of the Board. We feel the want of one or two active Medical men in Parliament, endowed with plain sense, who could expose to the country the downright nonsense which, from the late specimen, we fear it is condemned to swallow for some time to come in nauseous doses, under the prescription of the Board.

THE FLEMISH TWINS.

The case narrated and illustrated in another part of our Journal, offers the greatest similarity to that of the Siamese twins, which was brought before the public some years ago; the condition as regards the sternum and ensiform cartilages and umbilicus, being, if we do not mistake, identical; only traction seems to have rendered the union a little more pliant.

There is very little doubt, that in this, as in most of these cases, the two livers are united by their anterior part, a complication which would of course go yet further to negative the idea of an operation. The Siamese twins, too, could never be brought to see the advantage of separation, at least not while in Europe. But they subsequently married.

It is very difficult to offer any remarks upon the nature of these junctions. The curious in these matters may consult the great works of St. Hilaire and Otto, on misdevelopments in general, or the admirable monograph of Vrolik on double monsters in particular.

The form before us is by far the most common of all. Some twenty or thirty cases are, we believe, known and recorded.

It is somewhat singular that the majority seem to be female twins: at least three-fourths of those recorded by Otto were female. So far as we know, the sex is invariably the same in both.

The sympathies of these double monsters are remarkable. We do not merely allude to the coincidence of feelings and habits often seen in ordinary twins, which is, perhaps, explicable enough as an exaggeration of that identity of physical and mental conformation and circumstances which often obtains in children of the same parents. But we cannot help noticing that the *humoral* mixture which must result from the vascular anastomosis of the twin monster is obviously the cause of their liability to, or co-affection with, the same blood disorders; while the distinctness of their animal functions is mainly due to that of the nervous system.

The higher philosophical import of these misdevelopments is as yet little appreciated. Vrolik's theory is, that they are not fusions of two into one, but rather fissions of one into two,—not attempts at unity by two, but attempts at duplicity by one—ovum. This view implies a greater power of the germ: or, in other words, just as Professor Owen supposes a higher germ-power, perlongated as to time, to give rise to parthenogenesis; so a higher germ-power, exerted at once, produces these developments of stray limbs, parasitic fœtus, and, finally, of double monsters.

If we might hazard any rash conjectures on such a very intricate subject, we should like to point out that the placenta is almost, but not invariably, simple, and so, also, is the umbilical cord; and that similarly there is generally something abnormal about the vessels of this part, not merely in the bifurcating umbilical vein, but in the want of minute division of the hypogastric and umbilical arteries of one of the twins. Often the latter difference appears to be associated with (to regulate?) a deficient development of that one.

Now, if we apply the theory of Vrolik, it would appear from hence that the placenta and its immediate off-shoots are less disposed to share in this excess of germ-power than any other part, and that thus the parts nearest to them become implicated in a similar unity.

And if we continue our speculations, and boldly regard ordinary twins as formed on the same law—or as a fission (a) of one ovum into two, we may still notice, in the frequent *oneness* of the placenta, a repetition of the same statement. But why, on this theory, should twins be so frequent, and monsters so rare? Why should there be, in the mass of instances, either a sufficient energy to form *one*, or, overpassing this, to form *two* perfect fœtuses? We can offer no cause but a *final* one, which, in this instance, would be no cause at all.

THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

The Session of the Royal Medical and Chirurgical Society has been brought to a close, and we publish this day the papers read at the last meeting. Among the Medical Societies of this metropolis, there is not one holding so distinguished a position as the Royal Medical and Chirurgical, and the abstracts of the papers read at the various meetings, published in our columns, are always perused by the Medical Profession with much interest. We have, in consequence, regularly furnished to our readers those abstracts, with the discussions which took

(a) The word is here employed, not to signify the *fact*, but rather the *tendency*, since the ovum, at this date of early development, must be regarded as a multitude of homogeneous and fissiparous cells.

place upon them. In reviewing the transactions of this learned body during the past Session, we have no hesitation in saying that they are indicative of increasing prosperity. Though there has been some slight misunderstanding on points connected with the administration of the affairs of the Society, we are glad that it is not such as to peril its future advancement, and a goodly number of new members has been enrolled.

The papers which have occupied the attention of the Fellows, at their various meetings, have, upon the whole, exhibited a highly scientific and practical character, and will be worthy of a place in their published Transactions.

To the young medical man this Society offers especial advantages. In addition to affording him intercourse with some of our first Physicians and Surgeons, he has the privilege of access to a splendid library. Here he may consult Authors whose productions, from their high price or rarity, he cannot purchase; while he also is enabled to read most of the professional works which are constantly issuing from the Press. With these attractions, the Society has nothing to fear from any rival; and with such meetings as those which took place during the last session its popularity must increase.

THE OPERATIVE SURGERY OF JOHANN FRIEDRICH DIEFFENBACH.

EDITED BY
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EDITOR'S PREFACE.

It is with infinite pleasure that I have undertaken to edit, and to offer in an English dress to the readers of the *Medical Times*, the great work on Operative Surgery of the celebrated Professor of Berlin, Johann Friedrich Dieffenbach. To me it is a labour of love, and that rendered still more pleasing from having been suggested to me by my lamented friend, and executed in fulfilment of a promise now, alas! become sacred:—

"τους αγαθους και θανοντας ευεργετειν δει."

These, however, are private reasons, depending upon personal feelings and grateful recollections:—

"Multis ille quidem flebilis occidit,
Nulli flebilior quam *mihi*."

There are public and higher grounds for presenting this work to the Profession. To speak of the renown and celebrity of Dieffenbach is superfluous. Wherever surgical science has reared its head, these are known and fully appreciated. His work, an analysis of which I propose to offer to the English reader, gives the result of the experience of the greatest Surgeon the world ever knew,—for in him were united the practical knowledge of Colleges and the inventive genius, I may almost venture to say, of the whole surgical world. Such a work cannot but be of the highest interest to every member of the Profession. The book is essentially his own. He borrowed from no man:—of what writer on surgery can the same be said? In this respect it stands in remarkable opposition to the work of Chelius of Heidelberg—excellent, no doubt—but which is a mere compilation, fashioned and well arranged, from many sources, and considered in Germany as a useful text-book for the student; while, by careful collation in the hands of its enlightened English editor, Mr. South, it has received no inconsiderable improvement—indeed to him it owes its greatest excellence. Dieffenbach's work, on the contrary, moulded in another shape, assumes a higher rank. It is for the practical surgeon. It is no compilation. It is drawn from the author's own resources. It relates the conceptions of the man, and develops them in action. To these I shall strictly confine myself, passing lightly and analytically over the generally accredited facts of the science, and insisting more especially upon those points peculiar and proper to the author.

I trust to be able to do justice to the great original, and to offer a clear and comprehensive exposition of his views and opinions to the readers of the *Medical Times*. But to do so, all slavish adherence to the *litera scripta* must be thrown aside, and although, in translated passages, the critic may sometimes fail to recognize the *ipsissima verba* of the author, he may rely that the sense and meaning has been religiously preserved. J. S. B.

AUTHOR'S PREFACE.

My immediate object in the publication of this work is to impart what useful surgical knowledge I possess; and I write chiefly for those whose experience has not been great.

August Gottlieb Richter tells us in the Preface to his Treatise on Hernia:—

"I wish to produce a work which shall embrace, in a condensed, but clear and perspicuous form, the riches of surgical science—a work void of learned gloss, and only destined for the practical surgeon—in fact, a work simple as Nature herself. My object is not to write learnedly, but clearly and instructively. I do not write for the learned world, but for the practical surgeon; and I desire that there shall not be found a page in my book from which something useful may not be gleaned."

May mine prove such a work!

Its composition has not been tedious and irksome to me. It has be n an agreeable task, and as such I wish the public to receive it. It is written, too, without prejudice; and this, I think, all, capable of judgment, will admit, even although they be not practical surgeons. The reader will find that this work is founded upon what actually occurs in practice; and that I have had great experience it is hardly necessary to mention. I have stated that which I have really seen; and I have viewed nothing through the "dim obscure" of strange or coloured glasses. Neither have I, in the decline of a long and chequered life, recalled the recollections of my prime, and given them to the world. I write in the vigour of my manhood, and record the events as they occurred in my practice of yesterday, and of to-day, and as they will to-morrow.

But from this it must not be supposed that I trust exclusively to my own resources; that I have not availed myself of the researches of others, or even have witnessed every truth I have recorded. On the contrary, though I have added much to the stores of surgical knowledge, I have learned much from the experiences of others. That I do not quote authorities for generally admitted facts, hardly requires an apology; and the vast amount of valuable information that exists, particularly on surgical therapeutics, using that term in contradistinction to operative surgery, which is more immediately the object of this Work, rendered it difficult to make an impartial selection. It has, however, been my endeavour to throw aside the least important, and to adopt the best.

After all, perhaps, my Work may not be popular. Some may call it unscientific, because the most ordinary practitioner can understand it. Others may say it is incomplete, because it does not seem to me necessary to republish useless matter. To please all classes, however, would be as unsuitable for the writer as for the reader. But should there be much to censure, I still trust more will be found worthy of praise—at any rate, much that I have written has already received the sanction of the most able and accomplished members of the Profession—of those whose opinions I value most. I have, therefore, little to fear from others. I have expressed my opinions boldly and fearlessly, because I have deemed it expedient. Besides which, in science, there exists no middle course between the "yes" and "no."

For the sake of younger readers, I have endeavoured to make my sketches as graphic as possible. Although drawn in glowing colours, they are accurate portraits; and since they are not overloaded with extraneous and meretricious ornament, they will at once be recognised, and not easily forgotten. My operations, too, are described in the simplest manner; and I have not thought it necessary to inform the reader that bleeding must be stopped, water and sponges used, and arteries secured; or to enter into any such trivial minutiæ.

In conclusion let me acknowledge my obligations to my friends Messieurs Angelstein, Holthoff, Reiche, Völker, Ribbentrop, and Hildebrandt, for the assistance they have rendered, both in my public and private practice, and to whose indefatigable exertions so many patients are so deeply indebted.

INTRODUCTION.

The department of medical science which excites the greatest degree of enthusiasm in the mind of its follower is, undoubtedly, operative surgery: and well, indeed, that it is so. Great must be the enthusiasm, and greater still the love for his profession that sustains the Surgeon, and enables him, without a shudder, to plunge his knife into the human body; to guide it calmly and deliberately as deeper, and deeper still, he cuts; to receive, unshrinking, the warm and reeking life-blood upon his person; to hear, unmoved and with unquivering heart, the agonising cry of the mutilated patient, and this without a moment's loss of self-possession, without ceasing either to feel or to think. Operative surgery is a bloody contest with disease—a struggle with death for life. The victory is not to be won by rashness nor by insensibility. It is obtained by skill, by science, by self-possession, and inventive genius; and without the strongest and yet the most unpresumptuous conviction of capacity, without an enthusiasm that overcomes every other emotion of the mind, let no one devote himself to its pursuits; he who does so must ever remain a novice, vainly knocking at portals he can never enter. However deeply he may have studied the healing art, however well he may be acquainted with all that surgery has recorded, and however versed in all the operations that have been performed or proposed, without other qualifications, no man can become a skilful surgeon—he must ever remain a journeyman in his craft. The distinctive marks of a perfect surgeon are, that his operations should be instinctive; that he should be a man of individual resources, and know and be able to perform that which is not written; that his creative genius should never forsake him; that it should avail him on every emergency, and never be at fault; that he should be able to invent, not only a new bandage or a new instrument, but that he should, under the most sudden and trying circumstances, possess the power to adopt means to an end, and to gain the victory—what though it be a bloody one—even without a council of war. The painter having learned the fundamental rules of art, the mixing and application of colours, the copying of models and the harmony of light and shade, throws aside the designs of others, he relies upon his own imagination, and paints his thoughts. The scholar may learn to make verses which scan correctly, and read with sufficient euphony; but, unless born with the "divinus afflatus," and feeling the inspiration of which Cicero wrote, he will never be a poet; and so the routine surgeon, who only knows to operate from books and from example, who has become a mere copyist and slavish mannerist, will find himself sadly at a loss, when called upon by circumstances to do that of which he has neither read nor seen performed. Men who can do this, are those alone to whom the term of Operative Surgeons should be applied. Though few in number, they have existed in all countries; and their surgical talents are to be estimated, not by the numerical amount and the magnitude of the operations they have accomplished, but by the

manner in which they have described them. The skilful surgeon is distinguished by the intelligibility of his ideas, and the simplicity with which he developes them; and it is impossible to have performed an operation well, unless the surgeon can also describe its steps with clearness and perspicuity. The most able surgeons have always been remarkable for lucid perspicuity of style. Percivall Pott in England, and Samuel Gottlieb Richter in Germany, afford examples in point. If all able surgeons have not written so well as these, their works are nevertheless characterized by clearness of idea and simplicity of expression; while they have avoided following the example of their more medical contemporaries, who, infected with the chimerical and philosophical doctrines of the day, borrow wisdom from each other, and, like the earlier writers, parade the doctrines of the schools. The same is said by Kurt Sprengel, in his history of surgical operations; and, although I would strongly recommend all physicians to study, at least, the Preface of that work, I will not here repeat his remarks, lest I should gratuitously offend and insult men exclusively devoted to the science of medicine. The history of Surgery teaches us that, from its birth, from the moment when the first splinter was drawn from the skin, even to the present day, it has always been progressing. During the middle ages, it was somewhat in abeyance, and, although Sprengel asserts that it has, of late, been retarded in its progress by the jealousy of mere physicians, I will not acknowledge such a disgrace to Surgery, nor such littleness of mind in its followers. It can never yield to the pressure of medicine; for its acts speak for themselves, and must overcome all opposition.

To practise surgery with success requires not only a facility in operating, but great mechanical genius. Different, indeed, are the qualifications the world thinks necessary to a good surgeon. To some, a man of herculean strength and strong athletic frame seems best suited to fracture bones and force joints into their proper places; others seek aptitude in the eyes whose piercing acuteness they suppose to discover what to others is concealed; while most persons regard the fingers as the seat of the surgical soul, and imagine that the test of competency consists in a sort of legerdemain, by which a limb is removed in a given number of seconds, and the knife handled with so much celerity that its movements can be scarcely followed. Physicians themselves are among this class—they place the talent of the surgeon in his fingers, appropriating to themselves the higher faculties of the mind; and yet the success of an operation depends chiefly on the indications laid down for its performance, the manner in which it is performed, and the subsequent treatment. Cruelty and hardness of heart have of late been considered essential to a good surgeon; but surely there is a great difference between cruelty and firmness, and, in so painful a procedure as a surgical operation, compassion and forbearance cannot be wanting.

(To be continued.)

MEMOIR OF DR. A. T. THOMSON, LATE PROFESSOR OF MATERIA MEDICA AND OF MEDICAL JURISPRUDENCE IN UNIVERSITY COLLEGE, LONDON.

By an OLD STUDENT OF THE COLLEGE.

The subject of the present memoir, the late esteemed Professor of Materia Medica in University College, was born at Edinburgh in January, 1778, and, consequently, at the time of his death, was in his seventy-second year. His father was a Scotchman, who had emigrated to America, and held the lucrative post of Commissioner of Customs in the town of Savannah, in Georgia. He had arrived on a temporary visit to his native country immediately before Dr. Thomson's birth, but shortly after this event he returned to America, and remained there till the termination of the War of Independence. Dr. Thomson's father, in addition to the Commissionership of Customs, held the appointment of Postmaster-General of the province of Georgia, and was also a member of the Government Council. Like many of the American Loyalists he threw up his appointments when the peace was proclaimed, and returning to England, received a pension from Government, and retired to Edinburgh. Dr. Thomson was educated in the High School, and subsequently in the College, of Edinburgh. Among his school and college friends were Leonard and Francis Horner, Henry Cockburn, afterwards a distinguished orator of the Scottish bar, and now one of the Lords of Session, and several others whose names have since attained a wide celebrity. At the time of Dr. Thomson's attendance at Edinburgh the fame of this great medical school was at its height; the names of its teachers, Monro Secundus, Gregory, Black, &c., were known all over the civilized world. Dr. Thomson attended the last course of lectures ever delivered by Dr. Black. During his attendance at the College, Dr. Thomson became a member of the Speculative Society, and mingled in the celebrated debates which then exercised the talents of many who were afterwards destined to play no inconsiderable part on a much wider stage. Here it was that Dr. Thomson formed the acquaintance of Lord Brougham, and laid the foundation of a friendship which continued during his whole life. Dr. Thomson graduated at Edinburgh; and having the misfortune to lose his father about this time, and finding that he was left entirely dependent on his own exertions, he determined to commence practice in London, which he accordingly did, after joining the College of Surgeons in London, as a General Practitioner in Sloane-street. He rapidly acquired a large practice, and in 1801 was married to Miss Maxwell, of Dumfries.

In 1810 he commenced a course of lectures on Medical Botany, which was for many years the only course of the kind in London. It was very popular, and many of the most eminent men of the day became his pupils. Shortly afterwards he published his "Conspectus of the Pharmacopeia." This little book, the most popular one of its class, was sold to Underwood, the publisher, for 20*l*. Some idea of its astonishing success may be learnt from the fact, that after passing through five editions, the copyright was bought by Messrs. Longman and Co. for 600*l*. It has since passed through many more editions, and has brought immense profit to its proprietors, though very little to its author, who merely received 20*l*. or 30*l*. for revising each fresh edition. In 1811 Dr. Thomson published the "London Dispensatory," a work of such merit as at once to command a very extensive circulation, and to place the name of its writer among the first class of medical authors. It has passed through eleven editions, the last being published in 1844, and still preserves its reputation of being the best book on the subject. It is a work of great erudition, containing an immense amount of information, admirably put together in an easy and lucid way, and being illustrated with a great number of original experiments and observations. In the Preface to the first edition the Author apologises for its imperfections on the ground that it had not been written amidst the appliances of learned leisure, and the ease of an undisturbed study; but had been composed among the harassing cares and distractions of a most extensive practice. Had such an apology been needed, it might be said that this was most literally the fact, as it was usual for Dr. Thomson to rise at five o'clock in the morning, write for three hours, then spend the whole day in visiting his patients, return to a late dinner, and then work till two o'clock in the morning. Indeed, he never allowed himself more than three or four hours sleep. In 1814, Dr. Thomson became with Dr. Burrows and Mr. Royston one of the editors of the "Medical Repository." This Journal, which speedily commanded a wide circulation, and exercised great influence with the Profession, was established both for the purpose of promoting medical science, and with the view of becoming the organ of the associated Surgeon Apothecaries, who were then agitating for the medical reform which afterwards took the shape of the Apothecaries' Act. Dr. Thomson was one of the most energetic Reformers, and embraced the cause of the general practitioners with his accustomed ardour. It was, in great measure, owing to his energy and to the skill with which he and Dr. Burrows advocated the claims of the Apothecaries, that the first instalment of medical reform was obtained for the Profession. Although, at this time, Dr. Thomson was overwhelmed with a great private practice, he wrote largely for the "Repository." In the copy which he kept, and which, through the kindness of his family, we have been permitted to inspect, the names of the writers are attached to each article. To those who are curious in such matters, we may now safely permit a glance within the editorial sanctum. The first original article in the Journal, viz., "Two Cases of Hydrocephalus Acutus" is by Dr. Thomson; and the symptoms and *post-mortem* appearances are detailed with great minuteness. In the same Number is a very able, and rather sharp review of the fourth volume of the "Transactions of the College of Physicians," also from his pen. In the second Number, "the Reviews of the Progress of Chemistry," "Materia Medica," and "Botany" on the Continent, are by him, and, in the subsequent Numbers, he wrote the greater part of the Reviews, and of the "Analyses of Foreign Medical Science and Literature. Those Analyses were subsequently lengthened into "Retrospects of Medical Science," which are perfect models of what such things ought to be, and show to the greatest advantage the singular talent which their writer had of collecting from innumerable sources every important and novel fact. It is astonishing, how Dr. Thomson, even with his power of work, could have found time, at this period, to fulfil his numerous engagements. He was doing a private practice of about 3,000*l*. per annum; he was an active member of the Apothecaries' Committee, (and several speeches reported in the first volume of the "Repository," testify to his exact appreciation of the question of Medical Reform,) he was delivering Lectures on Botany, and performing an amount of literary labour for the "Repository," which, by itself, would have engrossed the whole time of many men. Shortly after this time, the first case of poisoning by oxalic acid in England was published in the "Repository," by Mr. Royston, and Dr. Thomson immediately entered on an investigation into the chemical and medicinal properties of this acid, which ended in the publication of some Toxicological papers, to which succeeding writers have continually referred. He discovered also the best antidote to poisoning by oxalic acid, and, in fact, went over the ground which was afterwards trodden in the same way by Orfila. In 1815 and 1816 Dr. Thomson was engaged in numerous inquiries into the microscopic structure of plants, many of which are of great interest, and are contained in his work on Botany, published two or three years subsequently. In 1818 the *Medical Repository* was sold to Underwood. Dr. Thomson continued, however, to be a large contributor to it, and the Retrospect of the Progress of Medicine which opens the volume for that year, and occupies more than sixty pages, was written by him.

In 1820, having for some time been a widower, he married a second time.

In 1826, Dr. Thomson removed from Sloane-street, to Hinde street, Manchester-square, and became a member of the College of Physicians.

In 1828, University College, or, as it was then called, the London University, opened its theatres to the public, and Dr. Thomson was elected the Professor of Materia Medica and Therapeutics, a chair which he held till his death. In the following

year he published an edition of Bateman on Cutaneous Diseases, with Plates. In 1832, on the death of Dr. Gordon Smith, he was appointed Professor of Medical Jurisprudence in University College, in conjunction with Mr. Amos, but shortly afterwards, when Mr. Amos accepted a Judgeship in India, Dr. Thomson became sole Professor, and continued so till his death. During this part of his life, from 1829 to 1849, he continued to manifest the same indefatigable industry as during his career as a General Practitioner. His private practice was considerable; he was Physician to the Dispensary attached to University College, and, subsequently, to University College Hospital; he delivered complete courses of Lectures on Materia Medica and Medical Jurisprudence, and gave weekly Clinical Lectures; he published a great number of scattered papers in the *Lancet, Medical Gazette, Monthly Journal of Medical Science*, and *Medico-Chirurgical Transactions*, and he contributed numerous Articles to the "Cyclopædia of Practical Medicine." He also published Lectures on Medical Jurisprudence, and the "Elements of Materia Medica," a text-book intended for the use of his class, which has passed through three editions. He wrote a very useful work on the Domestic Management of the sick-room, which had a very large sale, a short treatise on Botany for the Society for the Diffusion of Useful Knowledge, and published two or three Fasciculi of Plates on Skin Diseases.

In 1841 he commenced a course of Lectures on Botany for the Pharmaceutical Society, and continued them until his last illness. About ten years ago he was elected a Fellow of the College of Physicians, a distinction which, considering his reputation and his character, might have been sooner bestowed upon him. In addition to his extensive professional avocations, Dr. Thomson found time for various literary pursuits; he wrote many papers for the periodicals of the day, such as Colburn's *Monthly Magazine*, the *Foreign Quarterly Review*, the *Literary Gazette*; he translated Salvert's work on Magic, and edited, with copious notes, the "Seasons" of Thomson. These non-professional pursuits were carried on in what he called his leisure time, which consisted merely of the three or four hours he snatched from sleep, after fourteen or sixteen hours unremitting application to professional duties. During the last two years of his life he had been engaged in throwing his notes together for the purpose of writing a work on Diseases affecting the Skin, a task for which his great experience in these affections qualified him more highly than any other practitioner of his day.

In the summer of 1848 both his mind and body seemed to be as strong and active as ever. He was accustomed to rise at six in the morning, walk up to the Botanical Gardens in the Regent's Park, deliver from seven to eight his Lecture to the students of the Pharmaceutical Society, then return and see patients till half-past twelve. At one o'clock he went to his hospital, and at three lectured on medical jurisprudence. Once a week, also, he gave a clinical lecture, and on these days, therefore, was actually engaged in lecturing for three hours. After his lecture on jurisprudence he made his visits till a late hour in the evening, returned to dinner, and after dinner commenced preparing his lectures for the following day, writing reviews, and medical papers of all kinds, arranging his book on skin diseases, or collecting materials for the next edition of his "Dispensatory," which was his favourite and most profitable work. After many hours' labour he would lay aside his professional work, and take up some of his lighter pursuits, and then, at two or three in the morning, retire to bed for three or four hours. He found time, somehow or other, to read all the medical publications, both periodical and otherwise, and studied many of them as attentively as if he had been a student of 20 years of age. At the time of his illness he had been very carefully reading Feuchtersleben's Medical Psychology, and had half completed a long review of it, intended for one of the leading medical journals.

In spite of this intense occupation, at the commencement of the session in October, 1848, he had never seemed in better health, or more active in mind. In January, 1849, however, he caught cold, and had a very severe attack of bronchitis; after two or three weeks' illness he went into the country, and soon regaining his strength, insisted, contrary to the advice of his friends, on returning to his work. He entered upon his duties as usual, but, probably from the exposure which a professional man cannot wholly avoid, again suffered a return of bronchitis, with which a little pneumonia was now combined. This was, however, soon subdued, and he left town for a few days to recruit. He came back strong and active, although the cough had not entirely disappeared, and recommenced his lectures and hospital practice. Immediately before the termination of the winter session, he was accidentally exposed to cold, and felt chilled and indisposed; instead of returning home he went his round of professional engagements, but while engaged in writing a prescription at the house of a patient, was attacked with a fainting fit. He soon recovered, finished his prescription, and returned home. The next day he felt himself too unwell to go out, and when visited by his professional friends, it was found that extensive pneumonia of the right lung had set in. This was apparently soon got under, and at one time he seemed rapidly recovering, and was able to leave his bed for six and eight hours a-day. Without assignable cause, however, the disease again partially returned, pleurisy to a considerable extent complicated the case, and after lingering several weeks in a state of great debility and exhaustion, he gradually sank, and died on the 3rd of July. The mind remained perfectly clear and active till within a few minutes of death; till within a few days he had continued the dictation of his work on skin diseases, and had consulted authorities on the subject. He bore his illness with extreme patience, and contemplated its inevitable termination with the fortitude of an honest man and the calmness of a Christian.

We cannot conclude this brief notice of an excellent Physician and most exemplary man, without a few remarks on the character of his intellectual powers, and on the claims which his memory has on the gratitude of the Profession. And we may remark, in the first place, that this spectacle of man engaged for so many years in the engrossing occupations of general practice, and yet finding time not only to keep up his own knowledge of his profession, but to add materially to the general stock, is an example which every man would do well to copy. Let those who regard the General Practitioner as one of an inferior class, or as one who, in the multiplicity of his engagements, is obliged to abandon all independent observation, confess their error, observing how Dr. Thomson, while engaged in the largest practice in his own part of London, appeared as the only instructor in a very important branch of medical study,—published works which, even after nearly forty years, remain unexcelled,—agitated unceasingly to obtain from the Medical Corporations consideration and justice for his professional brethren,—and, in fact, realized, in his own person, the beau-ideal of an accomplished professional man, at once literary and practical, a profound scholar, and an excellent practitioner,—doing his duty to those whose lives, under Providence, were committed to his charge, and, at the same time, working honestly and disinterestedly to advance the art which he practised, and to promote the good of those who practised it with him. But those who would judge Dr. Thomson only from his published works, would hardly do him justice. In common with most men who write largely in Medical Periodicals, he exerted a great, though unseen influence on professional opinion. Many who have read only his "Dispensatory," have been too ready to regard him in the light of a compiler. In order to form an estimate of his critical faculty, or of the real extent of his knowledge of Medicine, it is necessary to consider the numerous anonymous Reviews, Retrospects, and Reports which he published from 1814 to 1820. Even his family are acquainted with only a few of these, and with those merely by accident; but those who will take up the ten first volumes of the "Medical Repository," will find, that the ability with which this Journal was conducted, and the scientific character of its contents, which were in great measure attributable to the subject of this memoir, would do honour to any Editors or Writers of the present day. Dr. Thomson, also, was one of those who, more than forty years ago, foretold the vast influence which microscopic investigations and organic chemistry would have upon Medicine. He had even made microscopic examinations of morbid products, which must have led him, had his occupations permitted him to continue them, to many results which have been regarded as great discoveries during the last ten or fifteen years. During the last twenty years, Dr. Thomson has been so constantly before the Medical Public, that it is hardly necessary to refer to the position he occupied in University College, and to his influence as a teacher. His pupils are now scattered all over the world; but, wherever they are, there will not be one of them who will not read this imperfect memoir of him with tears in his eyes, and with the consciousness that he has lost a dear and venerated friend. He was one whose sterling qualities made him loved by every one who came in contact with him; thoroughly honest and straightforward, a warm and earnest friend, ever anxious to advance the interests of his pupils, and constantly endeavouring, promote the wishes of his professional friends, it may be truly said, that there was no man in London more considered by the Profession generally, more cordially esteemed by his colleagues, or more loved and venerated by the students of his class.

As a Practitioner, Dr. Thomson was extremely successful; he was master of the latest improvements in medical doctrines and medical applications, and inspired the greatest confidence in his patients.

Like most men who have deeply investigated physical science, Dr. Thomson was thoroughly imbued with a sense of the majesty of the design and order of the universe. The man who had attempted to penetrate into the nature of the organization of plants, who had entered deeply, at one time of his life, into physiological speculation and chemical research, and who had fixed a curious and profound gaze on the mysteries of disease, could not be otherwise than religious. Dr. Thomson was also a firm believer in revealed religion; and without ostentatious profession, endeavoured constantly to act according to those Divine rules, the truth of which his innate consciousness acknowledged. He thus performed his duties in life worthily and well, he lived at peace with all men, and died tranquilly, leaving to his friends the memory of virtues which cannot be forgotten, and to his Profession a reputation which is in all points untarnished, and an example which might be imitated by every one with profit.

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—June 26, 1849.

Thos. Addison, Esq., M.D., President.

A Paper was read, entitled—

Case of Wound of the Radial Artery, with consecutive Hæmorrhage, treated by Ligature of the Brachial Artery. By H. B. Norman, Surgeon to the St. Marylebone General Dispensary, &c.

J. H., aged 13, thrust his hand through a pane of a window on March 4th, 1848, and inflicted an irregular wound across the fore part of the arm, about an inch above the wrist, which bled profusely. At the Dispensary a compress was secured by a roller passed tightly round the limb, the bleeding having been previously arrested by some temporary measures. The arm became tense and painful in the evening, and the bandage was re-adjusted, less tightly. After the lapse of a fortnight, the wound having partly healed, bleeding recurred. On March 26th the boy lost blood again till he fainted. Compress and bandage were still applied, and the inflamed parts around fomented. On April 1st a third bleeding took place, and on the following day, the hæmorrhage returning, the author was requested to see the patient, and found the lower part of the forearm swollen, tense, and hot; a sloughy opening marked the spot whence the blood had issued, and the surrounding parts were "boggy." Com-

presses were re-applied above and below the wound. In the course of the radial artery, and secured by a lightly-rolled bandage. The constitutional disturbance was augmented on the following day; the integuments about the wound sloughed, giving exit to bloody pus, and strong pulsations were distinctly felt over this part of the limb. The inflamed tissues were now freely divided, a poultice was applied, and a compress placed over the brachial artery. On the 4th, a further hæmorrhage determined the author to ly a ligature on the brachial artery, which was ted without difficulty. The constitutional disturbance continued for some time, but ultimately subsided; the lower wound assuming a healthier appearance, and the patient's diet being improved. The ligature came away on the 8th day, when both wounds were healing steadily. On May 2nd, both wounds were closed, and the boy was convalescent.

The author remarks that he regrets the wounded artery was not exposed in the first instance, and its bleeding ends secured by ligatures. He admits that compression may sometimes be effective where it is immediately resorted to, and great care exercised in its employment; of such practice being successful he cites an instance. He considers the adoption of similar practice to that first referred to (viz., ligature at the seat of injury) in secondary hæmorrhage, a more open question; and observes that, in the case just narrated, the means seem to have been justified by the end, the circulation in both ulnar and radial arteries being arrested, and only restored subsequently in that part of the latter artery which was below the seat of injury. After the application of the ligature, the temperature of the afflicted limb was 2° Fahr. below that of the opposite, on several occasions when the comparison was made.

A Case of Diseased Larynx, in which Tracheotomy was three times performed, and a portion of necrosed ossified Cartilage was coughed up, through the artificial opening from the bronchus. By E. Humby, M.R.C.S.

T. H., aged 53, had passed the greater part of his life at sea, or in the West Indies. In April, 1845, having had syphilis two years previously, he took mercury to relieve secondary pains, &c. In July, a severe cold he caught was accompanied by pains, sore throat, loss of voice, and dyspnœa. Active antiphlogistic treatment proving unavailing in relieving the last symptom, tracheotomy was performed, and a silver tube worn for a month. This was then dispensed with for three weeks, but the recurrence of dyspnœa required its introduction. Mercury was then rubbed in; the patient was kept in a room supplied with a constant jet of steam, and iodine was given internally. In July, 1846, the difficulty of breathing increasing, it was determined that the opening should be enlarged, and a wider tube introduced. This was effected with difficulty by Mr. Liston, in consequence of ossification of the rings of the trachea, which the bone forceps were required to divide. In October following, the author first saw the patient. He was then suffering from constant cough, with muco-purulent expectoration, and great constitutional excitement, with physical signs of mischief in the lungs, especially the left. On November 14, Mr. Liston cut out a second piece of ossified trachea; and, in a fit of coughing which followed, a large piece of necrosed ossified cartilage (apparently a part of the cricoid) was coughed up. The patient died six days after this operation. Autopsy.—The right pleural cavity contained three pints of turbid serum, with lymph. The left lung was partially consolidated. The upper part of the larynx was nearly closed; the back of the cricoid cartilage was absent; the rings of the trachea were ossified; and in the left principal bronchus was a fragment of necrosed ossified cartilage. The author considers the disease to have had its origin in the primary syphilitic affection; and remarks, that the principal points of interest in the case are, the great difficulty attending the operation of tracheotomy in this instance, and the presence of the dead bone in the bronchus.

On the Minute Anatomy of the Sudoriferous Organs. By G. Rainey, Demonstrator of Anatomy in St. Thomas's Hospital.

The Author observes, that the epidermis is composed of two very distinct layers, a superficial and a deep layer; the former consisting entirely of epidermic scales, whilst the latter is made up wholly of epidermic cells, excepting where this layer is perforated by the sudoriferous ducts. These layers are distinguishable from one another by the dark colour of the deeper layer appearing to present an undulating border. The fact of one of the cells being in one layer, and the scales in another, he observes, is contrary to the opinion generally entertained, that the epidermic cells, produced at the inferior part of this layer, become gradually and progressively changed into epidermic scales in proportion as they approach the surface; it also renders the explanation of the cause of the spiral course of the sudoriferous ducts more simple; for, as in this layer, the epidermic scales undergo no change in their structure, and but very little in their dimensions; the duct, being built up of these scales, must remain the same through the entire thickness of this layer as when it first entered it. In the superficial layer of the epidermis the sudoriperous ducts are composed entirely of epidermic scales, so placed that the long diameter of each is parallel with the axis of that part of the passage into which it enters. This part of a duct is destitute of membranous parietes being merely a passage between epidermic scales. In the deep layer of the epidermis the sudoriferous ducts are situated above between flattened epidermic scales, with their long axis placed as before observed, and below between epidermic cells in different states of development. Now as some of the lowest of these cells are so imperfectly formed as scarcely to have the character of cells, it must follow that the part of the passage which is situated between such cells, cannot have its parietes well defined; and there must be a part in every duct (where the cells forming it are just coming into existence) so imperfect that the sweat in entering it will pass through little more than a layer of blastema; it is for this reason that the most inferior part of a sudoriferous duct becomes so indistinct that its termination in the dermic portion cannot be distinctly made out; and it is in this respect that all the delineations of these ducts which I have seen are incorrect, and convey an erroneous idea of their exact structure. The parietes of these ducts are erroneously represented as passing continuously from the dermis into the epidermis; the tube at this part being made to have the same diameter as elsewhere, whilst the fact is that the lower portion of the epidermic part is conical and narrowest below, being shaped like the end of a cork-screw, and the upper part of the dermic portion of the duct is rather conical also, but its base is above. The part of a duct, which is situated between the cutaneous papillæ, contrary to what is generally stated, is, in the place of being straight, very much curved, this being the part in which it gets its spiral form. The dermic portion of the duct is continued from the gland in a flexuous course to the dermic where it terminates, by the membrane of which it is formed becoming continuous with the basement membrane of the papillæ. It is lined by a layer of epidermic cells, which get gradually indistinct towards the gland. Respecting the spiral and conical form of the sudoriporous ducts, it is observed, that this can only be acquired in the deep layer of the epidermis. Since, in the superficial layer, the scales of which they are built up undergo little or no change after they have once been protruded into it, and the dermic portion of the ducts is totally of a different structure to the epidermic. The form which the ducts take in this layer is attributed to the changes which the cells here undergo during their transformation from mere nuclei into perfect cells, and their subsequent conversion into scales, these changes being confined entirely to the deep layer of the epidermis. The ducts here become conical, by the cells which bound them becoming more and more flattened vertically, in proportion as they become pressed upwards, the space between them gradually increasing, as they acquire the form of scales. Besides, this part of a duct is situated in a conical space between the papillæ, where, at its inferior part, the epidermic cells are much more crowded together than at its upper part. This relative difference between the number of cells, and the space containing them would allow of their being more easily separated by the secretion passing between them, above than below. Respecting the spiral form, the increase in the dimensions of the epidermic cells during their growth from nuclei to perfect cells, and their subsequent flattening and conversion into epidermic scales, would have a tendency so to alter the thickness of this stratum of the epidermis, as to throw the passages between its cells into a more or less zig-zag form. As the changes which take place during the formation of cuticle, as well as during that of other structures. do not proceed with perfect uniformity, but are doubtless more active at one period, or in one state of the system, than in another. The Author remarks, that it is probable the laminated form of the nails, the concentric osseous layers around the haversian canals, and the length of the coils of the sudoriporous ducts, are the result of certain alternations of activity and repose of the processes by which they are formed. As there are no other glands in the skin of the hands and the feet, the Author considers the sweat glands, as those which furnish the oily or sebaceous matter with which these parts are anointed; and, in the place of considering the sweat as an increase of the vapour which is at all times given off from the surface, as the insensible perspiration, he regards it as an increased secretion of these sebaceous glands. These glands being in their less active state sebaceous, and in their more active one sweat glands. This must be the case in the hands and feet. The vapour which is exhaled at all times from the skin, whilst in its normal state, he regards as the fluid in which the solid material of the cuticle was dissolved, in order that it might be in a fit state to pass through the coat of the capillaries, having become separated from the solid component of the epidermis blastema during the production of epidermic cells, and having penetrated the scaly layer of the cuticle, would arrive at the surface. In a minute state of division, the fluid part of the sebaceous secretion would doubtless form a part of this vapour.

On the Treatment of Pericarditis; especially on the Effects of Blood-letting and Mercury in that Disease. By John Taylor, M.D., Fellow of the Royal College of Physicians in London, and Physician to the Huddersfield Infirmary.

In this communication the Author has analysed the forty cases of pericarditis, published in the *Lancet* in 1845 and 1846, in respect to the treatment of the disease.

The cases are divided into two classes—1. Those occurring in connexion with acute rheumatism, the subjects of which were previously in good health; and 2. The cases occurring in connexion with renal disease, or in persons in a previously bad state of health.

The patients in the first class, besides being in good health, were younger, and suffered from much fewer complications than those in the second class. Very few of those in the first class died, whereas all died in the second class. The conclusion from these facts is, that the age and previous health of the patients, and the nature of the complicating diseases, have more influence upon the favourable or unfavourable termination of pericarditis than any difference in the treatment.

The remedies, whose effects are examined, are chiefly blood-letting and mercury:—

I. Bloodletting.—The conclusions arrived at are the following:—

1. The duration of pericarditis increases, in proportion as the time is longer between the commencement of the disease and the first bleeding.
2. The duration of the cases bled after the first four days, is greater by one-half than that of those bled within the first four days from the invasion of the disease.
3. The influence of bleeding was more marked in the cases in which it was copiously and repeatedly, as well as early, practised, than in those in which blood was drawn less frequently and more sparingly.
4. Pericarditis is never extinguished at once, by bleeding, however early, or however copiously practised.
5. In several cases the pericarditis was suspended for a limited time. The suspension in every instance was immediately consequent upon the local abstraction of blood.
6. It is probable that renal has a longer duration than rheumatic pericarditis.
7. Blood-letting must be less copious, and is more frequently inadmissible, in renal than in rheumatic pericarditis.
8. Bloodletting probably lessens the mortality, inasmuch as it lessens the duration of pericarditis; but direct proof of the reduction of mortality is not to be obtained from these cases.
9. The abstraction of blood by venesection, cupping, or leeches; almost invariably relieved the pain at once, but not permanently. There is no reason to believe that any one form of bleeding relieved pain more effectually than another.
10. Bloodletting never lessened the frequency of the pulse, except when there were signs of the inflammation having abated.
11. The tendency to syncope, in some cases of pericarditis, renders it necessary to be very careful in abstracting blood by venesection.
12. Free venesection for pericarditis does not always prevent the subsequent appearance of serious inflammation in other internal organs.

II. Mercury.

1. The cases in which mercury was given within the first four days, had an average duration, less by five days, than those in which it was given later.
2. The cases in which salivation was produced within the first four days, had an average duration, less by two days, than those in which it occurred later.
3. It is difficult to determine how much of the benefit was due to the mercury, because all the patients

who took mercury were likewise bled; and, in almost every instance, the two remedies were first employed on the same day.

4. The Author is inclined to the conclusion that the benefit was due, in greater measure, to the bleeding than to the mercury; partly because the duration of the disease was more abbreviated in those who simply began to take mercury, than in those in whom salivation was produced within the first four days. The administration of mercury coincided with the bleeding, but the salivation did not, and the results are just what might be looked for upon the supposition that the benefit was due to the bleeding and not to the mercury.

5. If the production of salivation had anything like the marked influence in arresting inflammation, and in promoting the removal of its products, which it is currently believed to possess, the duration of the cases of pericarditis, after salivation, ought to have been much less than it really was. This is proved by a detail of the cases.

(a) Salivation was not followed by any speedy abatement of pericarditis in sixteen cases.

(b) Salivation was followed by pericarditis in five cases.

(c) Salivation was followed by an increase in the extent and intensity of the pericarditis, in three cases.

(d) Friction sound ceased two days before the mouth became sore in two cases.

(e) Salivation was followed by a speedy *diminution* of the friction sound in two cases; it did not cease, however, for some days after.

(f) The pericarditis *ceased* soon after salivation, in two cases. In one of them, however, it had been declining for some days before.

(g) Mercury was given, but no salivation was produced in seven cases.

(h) No mercury was given, nor other treatment adopted, in eight cases.

(i) Cases are detailed, exhibiting the occurrence of various internal inflammations, during the time that salivation was proceeding. The cases comprise examples of endocarditis, pleuro-pneumonia, pneumonia, pleuritis, erysipelas, and rheumatism.

A conclusion rather adverse to the antiphlogistic powers of mercury having been drawn from the facts narrated, the Author next examines the evidence upon which the contrary and more prevalent opinion is based, and infers that the evidence is not satisfactory. In the course of this examination some remarks are offered upon the necessity for the application of the "numerical method" in therapeutical inquiries, and also upon the difference, and its results, between the practice of French and English physicians, in inflammation of serous membranes.

Case of Chronic Hiccup and Vomiting. Discovery of Oxalic Acid in the Blood. By ALFRED BARING GARROD, M.D., Assistant-Physician to University College Hospital. Communicated by Dr. WILLIAMS.

The Author, after making a few preliminary remarks, shortly described the characteristic symptoms exhibited by the patient, namely, the constant hiccup, or eructation, œdema of the face and extremities, ascites, together with a frequent, but not constant, albuminous impregnation of the urine; and then spoke of the *post-mortem* appearances, of which the only remarkable one was the state of the kidneys, which were found to be coarse in texture, and the tubules of the cortical portion filled with a white plaster-like matter (urate of soda.) Dr Garrod then gave an examination of the blood obtained from the patient, which was found to contain a large amount of urea; and during the search for uric acid, Dr. Garrod discovered the existence of a large amount of oxalic acid in it, which he obtained in the octahedral and dumb-bell form of crystals of oxalate of lime. The Author then described the mode of separating oxalic acid from blood, and stated, that he had succeeded in discovering traces of it in four other cases. Lastly, Dr. Garrod made a few remarks on the importance of the discovery of this acid in the blood, and the probable connexion between the oxalic and uric acid diathesis, and put, as a query, Whether, some of the symptoms exhibited by the patient might not be due to the presence of oxalic acid?

A Case of Calculi of the Pancreas, one of which escaped into the Cavity of the Abdomen, causing Death by internal Hæmorrhage. By OSCAR M. P. CLAYTON.

Mr. J. R., aged 47, an inspector of police, eighteen months before his death consulted the Author relative to frequently recurring dyspeptic symptoms, and a deep-seated pain at the epigastrium. Two or three months later, during an unusually severe paroxysm of pain, hæmatemesis to a considerable amount occurred. The attacks of pain recurred at intervals of two or three weeks, and when severe were followed by more or less of hæmatemesis. Emaciation at the same time slowly increased. His death was attended by symptoms denoting some lesion, probably hæmorrhage within the abdomen.

On examination of the body twenty-four hours after death, coagulated blood in large quantity was found in the peritoneal cavity. The liver and alimentary canal were healthy. But the pancreas was much enlarged, and contained numerous calculi lodged in the dilated trunk and ramifications of the excretory duct. The duct itself presented an opening, through which the largest calculus had escaped into the cavity of the abdomen. This calculus, two-thirds of an inch in length, consisted of carbonate of lime, with traces of phosphate of lime, animal matter, and fat.

A Case of Hemiplegia, associated with Great Hypertrophy of the Heart, and terminating by rupture of the Aorta, producing Dissecting Aneurism. By JAMES R. BENNETT, M.D., Assistant Physician to St. Thomas's Hospital.

A shoemaker, aged 52, was admitted into St. Thomas's Hospital, under Dr. Bennett, on the 27th of February, 1849. His habits had been temperate, and previous health good till within five or six months, during which time he had suffered from palpitations of the heart, vertigo, and uneasiness of the head. Fourteen days before his admission he had an attack of hemiplegia. On his entrance into the hospital he was still hemiplegic, and on examination there was evidence of a greatly enlarged heart; but of no obstruction to the circulation, either pulmonic or systemic. There was a slight diastolic bruit heard just below, and to the right of the left nipple, and there only. His general condition varied from time to time till the 21st of April, when the paralytic symptoms became suddenly aggravated. On the 24th of April he suddenly uttered a cry, indicated that he had pain in the chest, and in three or four minutes expired. Examination *post mortem* revealed an apoplectic clot in the left corpus striatum, surrounded by much softening of the brain, and a similar clot in the centre of the pons varolii surrounded by white softening. All the arteries at the base of the brain, and the smaller branches given off from them, were loaded with atheromatous deposits. In the left pleural cavity there was between three and four pints of recently coagulated blood, which had escaped through a laceration in the costal pleura. This lacerated opening was surrounded by an extensive extravasation of blood beneath the pleura, and the cellular tissue in the posterior mediastinum was throughout infiltrated with blood. On laying open the aorta *in situ*, there was found a transverse rupture three-quarters of an inch in length immediately beneath the origin of the subclavian artery. Above the point of rupture the arterial coats were not separated for more than a line or two in extent; but from this point downwards as far as the iliacs, the artery was split up by the blood which had been forced along between the fibres of the middle coat. Throughout the aorta and its main branches were studded with atheromatous deposits. The heart was enormously enlarged. With the exception of a trifling opacity, all the valves were healthy, as was also the endocardial membrane generally. The coronary arteries were healthy. In structure, both lungs and the pleura were healthy. The kidneys were pale and motled.

The Author remarked on the important chain of morbid phenomena presented by the case detailed, and considered the general arterial disease as the origin of all the subsequent structural changes both in the heart and brain. The patient appeared never to have had any arthritic disease, and there was nothing to indicate that the heart or pericardium had ever been the seat of acute or chronic inflammation. The hypertrophy of the heart was therefore referred to the loss of elasticity of the aorta, &c.; but it was suggested, that the aortic valves might, in consequence of the force to which they were subjected, have allowed some regurgitation, and the existence of a diastolic bruit was supposed to favour such a view. The augmented nutrition of the heart, and the healthy state of the coronary arteries were contrasted with the condition of the brain and its diseased arteries.

Dr. Kingston: In connexion with this case, it may be worth while to mention one with which I am acquainted of dissecting aneurism, as illustrative of another condition of system which it may give rise to—another condition of the arteries. The patient was a lady, about seventy-six years of age; and as in the interesting case communicated by Dr. Bennett, there was the coincidence of hemiplegia, with dissecting aneurism; but they were only connected by their proceeding from the same cause. In my case, the aneurism took place in the descending aorta, about half an inch below the innominata, so as completely to block up its orifice.

The President: It is a question how far the diastolic bruit was indicative of aneurism. To me it appears strongly indicative of it, being below the nipple. A very short time ago I saw an instance of it. The aneurism was seated behind the heart. But I doubt its being the result of injury to the valves.

Dr. Theophilus Thompson: One point of value connected with the paper is, that it is an illustration of such an event taking place, in the absence of those causes which generally give rise to it. There was no decided rheumatic affection, or affection of the aorta. The loss of elasticity of the middle coat of the aorta is dependent generally on inflammation; but here there were no symptoms of inflammation about the aorta. Again, there was no rheumatism. Then, on what did it depend? I think we may assume, that it arose from premature old age of that particular membrane. The appearances are very similar to those presented in old age; and in the absence of any symptoms of inflammation, and the presence of symptoms of senile degeneracy, I think mine is a fair assumption. Another point is, the connexion of the disorganization of other parts. It is most evident that the changes in the brain took place before the laceration of the coats of the artery, but this deficiency was favourable to the softening of the brain. I would remind the Society of the case of Moret, a physician, one which is brought forcibly before my mind by the paper read. It resembled that case, in that there was considerable softening of the brain, and paralytic symptoms, which subsided, and ultimately issued fatally, accompanied with rupture of the aorta, and the escape of pints of blood into the pleural sac. It was thought that disorganisation of the brain occurs by the effusion of blood between the two layers of the middle coat of the artery. Indeed, there was reason to think that this condition had existed for some days; and certainly this case seems to favour the opinion, that a condition of artery leading to laceration may often occasion softening of the brain and clots,—that, the paralytic symptoms may subside, and that the cause of it is preliminary disease of the artery. While the paper was being read, I was on the look out particularly as to whether there was any existence of pain about the abdomen; in some cases violent pain in that region is complained of.

The President: I only wished to express my opinion that we had here a very valuable diagnostic description of the disease. The bruit was heard below the left nipple, and on that symptom alone I should have been led to anticipate aneurism. The diastolic sound here was heard clearly in the same situation; and I am of opinion that was produced by the passage of blood through the aneurismal sac.

Dr. Bennett: There was no aneurismal sac here; only a dilated state of the aorta. With respect to any pain about the abdomen, it is stated in the paper that he felt a craving at the pit of the stomach, and fancied that he required more food; but he certainly never had any severe pain. There was no aneurismal sac previous to the rupture which caused death.

Dr. Williams: It is not uncommon to hear diastolic murmurs at, below, or above the nipple; the distinctness of them depends more on the position of the heart, or the overlapping of the lung. I have heard the murmur almost exclusively to the right of the nipple.

Mr. Blackall considered it very remarkable, that the heart should be dilated to such an extent as in this case, without the patient suffering any symptoms of disease.

Dr. Peacock wished to inquire of Dr. Bennett whether the competency of the aortic valves had been tested by the action of a column of water before the orifice was divided; if this was not done, it was difficult to decide whether there was, or was not, any regurgitation. Though considerable general hypertrophy of the heart was frequently seen, without any material valvular disease, he thought such an extreme amount of hypertrophy and dilatation of the left ventricle, as existed in this case, very rarely

occurred unless there was regurgitation through the aortic orifice, and the murmur heard during life rendered it probable that there had been some deficiency of the valves, allowing a column of blood to flow during the diastole from the aorta into the ventricle. He had recently investigated the subject of dissecting aneurism in connexion with a case which had occurred to him, and he found that by far the largest proportion of cases which were reported, were similar to that of Dr. Bennett, the laceration of the internal tunic of the artery which allowed of the formation of the aneurism being usually soon followed by the rupture of the external wall of the sac. There were four or five cases on record in which the tearing of the internal coats occupied a similar situation; and there was also one case in which the blood had escaped into the left pleural cavity. In Dr. Bennett's case, the rupture of the vessels in the brain was antecedent to the formation of the aneurism; but, in some cases, the sudden obstruction to the flow of the blood, caused by the pressure of the aneurismal sac, occasioned a second rupture of some other part of the vessel. This occurred in two cases which fell under his own notice, and in one related by Mr. Guthrie. In other instances, one or other of the cavities of the heart had given way, as in the case of George II. Dr. Bennett's case confirmed an opinion which he had expressed relative to the seat of the sac in cases of dissecting aneurism. He believed that it would generally, if not always, be found to be situated in the laminæ of the middle coat, and not between the external and middle coats, as had been generally supposed. He had performed experiments on the aorta, with a view to this point; and found that the external coat, alone, does not possess sufficient power to resist a column of fluid injected beneath it. In several cases which he had carefully examined, in the recent state, the sac was situated between the laminæ of the middle coat, and in two which he had dissected, and which had been previously published as dissecting aneurisms with the sac between the middle and external coats, he found that a layer of the middle coat was sound, with the external coat forcing the outer wall of the sac.

Dr. Bennett: The valves were examined with very great care; and were it not for the sake of being accurate, no allusion would have been made to the slight condition of them. I should like to call attention to the practical question which has been mooted by Mr. Blackall; it is certainly of great importance to ascertain the history leading to the assumption that there is aneurism; but, being ignorant of this in the present case, I looked upon the aneurism of the heart in connexion with hemiplegia, and looked on it with interest as a consequence of hypertrophied heart. The man was only cupped once over the cardiac region.

Dr. Thompson: In the case before referred to, there was hypertrophy, and in that case the valves were perfectly healthy; the aorta was somewhat dilated, and there was hypertrophy of the left ventricle, with a natural condition of the aortic valves.

Dr. Bennett said, that in reference to the experiment mentioned by Dr. Peacock, it had not been tried in the present case.

In closing the meeting, and also the session, the President expressed his hope that the very large assembly of gentlemen which he then saw before him was but an earnest of the growing prosperity of their Society.—Adjourned to November.

REVIEWS.

Lectures on the Causes and Treatment of Ulcers of the Lower Extremity. By George Critchett, Esq., F.R.C.S., &c. &c. London: John Churchill.

Having carefully perused Mr. Critchett's work, we were at a loss to discover the Author's object in publishing it; but, on turning to the Preface, we there found it stated that "the Author's main object, in the publication of this little book, is, to place the principle of mechanical support, in the treatment of ulcers of the lower limbs, on a correct and scientific basis; although, as he has endeavoured to show, this has already been briefly done by the late Mr. John Scott, in his work "On Diseased Joints;" a reference to all the best surgical authorities, since that work appeared, proves how entirely that principle is still, if not unknown, at least most imperfectly expounded; but, in addition to this, the Author has devoted considerable attention, during the last ten years, to the treatment of this class of diseases, and has had extensive opportunities of testing the practical value of the principle he advocates, and also of arriving at certain rules with regard to its applicability to the various phases which the disease presents, and the modifications required in order successfully to cope with the peculiarities of special cases." Our Author adds:—"He has, therefore, been anxious to offer the Profession such rules as he has been able to work out and has found useful in his own practice, and such as he has reason to believe would have considerably facilitated and rendered far more successful his own early efforts in this branch of surgery."

The principle of mechanical support in the treatment of ulcers of the lower extremities we have long believed to be well understood by all practical surgeons. We well recollect how strongly it was insisted on by Mr. Abernethy in his lectures; and we can testify that it was constantly applied in his practice. The very course recommended by Mr. Critchett was followed by Mr. Abernethy. The application of the strapping in all cases in which there was a varicose state of the veins, always commenced at the toes or some part of the foot, and in some cases it was carried as high as the knee, but in others not so far, and, according to its height, it used to be jocularly called, a "*half*," or a "*whole boot*." But from our Author's testimony, we must suppose that this part of surgery is neglected by Professors of the present day, and if that be the case, without doubt he is justified in calling the attention of the Profession to the subject.

It is not only the "varicose ulcer" which is considered in the work before us, but also ulcers of every denomination to which the lower extremities are subjected. The Author states:—"I propose, in the first place, to divide all ulcers into simple or local, specific or constitutional. I again divide the single or local into acute or spreading, sub-acute, chronic, healthy, irritable, and varicose; the specific, or constitutional, I arrange under the various heads of strumous, syphilitic, phagedenic, periostal, menstrual, œdematous, and malignant."

Our Author gives his own views on the nature and treatment "of each of these classes of ulcer," and moreover adverts to most of the remedial plans which have been proposed.

The means of cure recommended by Messrs. Baynton, Skey, Syme, Spence, &c., are separately considered, and objections, more or less well founded, made to each. His condemnation of Mr. Skey's plan is most decided, and in the following terms:—"Mr. Skey's pamphlet, emanating from so high a quarter as St. Bartholomew's Hospital, promised such great things, and with so much confidence, from the use of opium in the treatment of ulcers, that I was surprised to find, after a prolonged and extensive trial, that in no one instance I was able to trace the slightest benefit from its use. I have carefully administered this drug in about forty cases of this kind, and I have been compelled to arrive at the conclusion, that it is utterly valueless as a healing agent in the treatment of ulcers of the lower limbs."

But in the treatment of "each of the classes of ulcer," Mr. Critchett is most enthusiastic in his recommendation of mechanical support, by means of "strapping," in fact, he considers it the *ne plus ultra*; for, in conclusion, he states, "I must ever believe it constitutes the best and most efficient remedy yet discovered."

We by no means concur in all that is stated in the work; but there is much of it worthy of consideration, and we can conscientiously recommend it to the careful perusal of our junior readers.

We certainly hope to hear what Mr. Skey has to say to the charge brought against him by Mr. Critchett, of having advocated an "utterly valueless" mode of treating ulcers of the lower limbs.

Life Assurance: An Historical and Statistical Account of the Population, the Law of Mortality, and the different systems of Life Assurance; including the validity and non-validity of Life Policies; with Observations on Friendly Societies and Savings Banks; to which is added a Review of Life Assurance, explanatory of the Nature, Advantages, and the various purposes to which it may be applied. By Alfred Burt, Esq., Secretary to a Life Office. London: Effingham Wilson. Pp. 211.

There is little need to insist, in the columns of a medical periodical, on the importance of the subject of this book. The proverbial uncertainty of human life is a proposition which every one assents to the instant it is mentioned; and one may perhaps add, that the urgent necessity of making some provision for survivors is an act which, though many may defer, few would absolutely avoid. As the most unhealthy, laborious, and ill paid of the three learned professions, that of Medicine experiences far more than its share of those sad contingencies which Life Assurance is mainly intended to remedy. But, even apart from this personal interest in the question, its members are so intimately connected with it in a professional capacity, and so often applied to for advice on the subject, that it is scarcely too much to say that it behoves all of them to know at least the main features of Life Assurance, and the circumstances which should indicate the selection of this or that particular office.

The impossibility of gathering solid and trustworthy information from the multitudinous figures and *ad captandum* arguments of advertisements has hitherto rendered this subject, to the many, rather obscure and uncertain. The deficiency thus existing this book is intended to supply, and we can only say, that if all books were equally preceded by a want, and equally supplied that want, there would be far fewer volumes furnished from the Press; the skimmers of books might perhaps read them, and, haply, some of the readers might even aspire to understand them.

The book is a slim volume of pages 200 octavo. And the cynic who, on hearing that the Author is Secretary to a Life Office, is prepared to find it a flagrant advertisement of *the* Office, will be agreeably or disagreeably mistaken in learning that the author very properly withholds the name of his Office from the title-page, and affords no clue to it in any part of the volume.

In an introductory chapter, the stability of Life Assurance Societies is especially insisted upon. Reference is made to results which show, that, with with the exception of attempts at gross imposition, no instance of a failure has been known. This *acute* disorder excepted, it would appear that Life Assurances are remarkably *healthy* schemes; that the blood, we beg pardon, the money, circulates slowly and equably through their system; that the ingesta must counterbalance, or nearly so, the egesta; and, finally, that the continuance of their germ power is pretty sure to develope a bonus.

After a chapter upon Population, the Author successively treats of the laws of mortality and the nature of life assurance. The latter, which of course forms the chief part of the book, occupies three or four chapters. Under each of these heads the reader will find a very full account given of the history of the subject, as well as of its present position and bearing upon the question of Assurance. We think the Author has been very successful in making a complicated matter, involving many figures and calculations, so far intelligible as to be mastered with little trouble by the general reader. The different methods of Assurance, the different bases of Societies, the scales of premium, and the mode of payment, all receive due attention, and a very fair index points out at once any one of these for reference. He plainly considers that, on the whole, the best Society is a Mutual one, of some standing, and with as frequent as possible division of the profits. Next to this would come a young Mutual Society, with a small subscribed capital. Then would follow the mixed Mutual and Proprietary schemes, which offer part only of the profits to the subscribers; and, finally, as the least eligible,

except to the proprietors, follow the Proprietary Societies, in which the whole, or nearly the whole, of the surplus of revenue over expenditure is divided by that fortunate body of men—the large capitalists.

As regards diseased lives, there is of course little to be said. It would appear, however, that there is singularly little variation in the mortality of the diseases, consumption and others, which have at present been investigated with this view. But we take leave to differ slightly from the Author, and doubt whether the duration of phthisis, much less of any other disease, is either well known or accurately calculated for.

We cannot help remarking here, that there are few things which would tend more to increase the advantages of Assurance and extend its benefits, than a careful selection of medical advisers. Many a man is a very fair practitioner of medicine who is utterly devoid of the nice diagnostic skill necessary in a medical officer to an Assurance Company. We could add many curious anecdotes on this head, but will content ourselves with reminding Insurance Offices, that even now their medical officer is their most important and worst-paid functionary, and that a little more care in his selection would often add a large balance to the profit side of their accounts. As to the remuneration of the Medical referee, that is a question which some Offices have already decided, and they deserve the gratitude obviously due to those who pay for what they buy, and do no more than their duty. The other Offices must soon adopt the same plan, or if not, the Profession hold the decision in their own hands, and are becoming daily more unanimous on the subject.

On the whole, we are disposed cordially to recommend this book to our readers as an authority on the subject of Life Assurance. It is full, simple, and well arranged. It will enable any one with ordinary care to understand the subject, and to choose the special Office which offers, in his particular circumstances, the greatest advantages.

An Inquiry into the bearing of the Earliest Cases of Cholera, which occurred in London during the Present Epidemic, on the Strict Theory of Contagion. By Edmund A. Parkes, M.D., &c., Pp. 28.

An Account of the Origin, Spread, and Decline of the Epidemic Fevers of Sierra Leone, with Observations on Sir Wm. Pym's Review of the "Report on the Climate and Diseases of the African Station." By Alexander Bryson, M.D., R.N. Pp. 174.

There is no subject connected with our Profession at the present moment more deeply interesting than the question of the contagion of epidemic diseases. Proving fatal to vast numbers of the community in a few hours, they demand attention with a voice so loud, that there are few who, when they are the subject of discussion, do not lend an attentive ear. Quarantine laws, having for their object the exclusion from among us of such epidemic diseases as are contagious, involve in the obedience enforced to them the sacrifice of so much individual comfort, and of what is of far more importance in the minds of not the least influential of the community, such vast pecuniary losses, that no class, and scarcely an individual, but from sense of personal danger, or the hopes of medical success, must watch the progress of medical knowledge on this subject with the keenest interest.

We have conjoined the above works because they both enter somewhat fully into the subject of contagion, and the authors of both agree in the conclusion to which they have arrived, that diseases which owe their origin to endemic causes may become contagious.

The latter of these works, although ably written, is a sad example of the ill-feeling which medical controversy, even in the present age, can excite. Dr. Bryson and Sir Wm. Pym would, it seems to us, have supported their own dignity, the credit of the Profession, and the cause of truth better by indulging less in personal abuse. The pages of these two gentlemen recall to our minds Touchstone's quarrel with the courtier:—

"Jaques: Can you nominate in order now the degrees of the lie?

"Touchstone: Oh, Sir, we quarrel in print by the book; I will name you the degrees. The first, the retort courteous; the second, the quip modest; the third, the reply churlish; the fourth, the reproof valiant; the fifth, the countercheck quarrelsome; the sixth, the lie circumstantial; the seventh, the lie direct."

The use of "If" appears to have entirely escaped these authors—*If*, the only peace-maker, as the witty fool calls it.

The following extracts will, we think, justify us in what we have here stated:—

"*False* version." "*Perversion* and distortion of the real state of the case." "From the *false* and erroneous statements of Sir Wm. Burnett." "He (Sir Wm. Burnett) had some malicious object in view."—Sir Wm. Pym's Observations.

"These egregiously absurd complaints and accusations, made by the medical chief of the quarantine are, I submit, *not very creditable as regards his own character* for consistency." "Why, one might suppose that he (Sir Wm. Pym) had been smoking hachisch, or following the example of Rip Van Winkle," &c., &c.

"Hence his (Sir Wm. Pym's) real or *pretended* astonishment." "*Not true, he knew this when he wrote it.*" "This paltry libel." "The peculiar position in which Sir Wm. Pym has placed himself with respect to his *veracity*."—Bryson's Account, &c.

And all this calling of hard names is because these gentlemen differ on a purely scientific question; Sir Wm. Pym asserting and believing, and his assertion is supported, be it remembered, by very high authority, (we may, among other Authors, mention Dr. Stevens,) that there are two diseases confounded under the term "yellow fever." The one, "the Bulam fever," "Bulam with vomito negro," "African typhus," as Dr. Stevens terms it, contagious; the other, a non-contagious, endemic, remittent fever, accompanied, like the former, more or less frequently, with yellowness of the skin. These Writers have in their favour the weight of *à priori* reasoning, and the authority of great names. Dr. Bryson, on the other hand, represents a party who believe that non contagious remittent yellow fever, due for its origin to endemic causes, malarious otherwise, may be converted, in its passage through the human frame, into contagious, continued yellow fever. The weight of evidence, *so far as it goes*, is in favour of these Authors. So that, in the present state of knolewdge, a man may hold either in one opinion or the other without being guilty of professing wittingly his belief in a lie.

We are surprised that some one of the many able men who visit the quarter of the world where these fevers prevail, does not give to the Profession a series of cases of both forms of disease, so that we who cannot see might at least judge. At present the *ipse dixit* of Sir Wm. Pym is placed against the *ipse dixit* of Dr. Bryson, *i.e.*, using these gentlemen's names as representatives of parties; and, "I say it is," is only opposed by, "I say it is not," or, less politely, by "You lie." From these combatants we turn with pleasure to the pamphlet of Dr. Parkes, in which the subject of the origin of cholera in London is treated with that ability, candour, temper, and scientific precision which characterize all his literary productions. The importance of the subject, the peculiar facilities Dr. Parkes enjoyed for conducting the investigation, the simple elements with which he had to work, and the honesty of purpose which evidently guided him in his researches, lead us to attach so much value to this paper, that we shall offer our readers a tolerably full abstract of its contents.

The "Inquiry" commences with a lucid and concise statement of the question at issue between the two parties, the opinions of which respecting the diffusion and propagation of epidemic diseases, our Author believes, divide the Medical world—*i. e.*, that of the strict, and that of the modified contagionists. To the strict *non*-contagionists Dr. Parkes assigns no place, apparently believing, that such a sect has no existence. The Non-medical Board of Health, it will be remembered, have retracted the heresy contained in the first *famous* Gwydir-house Manifesto. The following extracts will give our readers some notion of the mode in which the question is stated:—

"The *strict contagion theory* I take to be that which refers epidemic diseases to the action of specific poisons, which (it alleges) multiply themselves only during their passage through the animal body. All other reputed modes of increase this doctrine considers to be doubtful or untrue; and it looks upon the external circumstances which surround the animal frame as influencing the efficient cause or poison of the epidemic, only so far as they render the body a more or less fit recipient for its action. As it concludes that the body is the only source from which a fresh supply of the specific agent can be evolved, it deems it necessary that the person, to be infected, should come within the influence of the particles of poison (imparted by contact, diffused in the air, or adhering to clothes,) which have been emitted from the breath, surface of body, or excretions of an individual already suffering from the disease, or from the corpse of one who has already died of it. . . . .

"While the influence of epidemic constitutions of the atmosphere, and of external local circumstances, over the fevers of this country, as over the Oriental plague, is admitted, these conditions are presumed simply to augment the susceptibility of the subject, but to have no direct influence on the virus itself. They act on the soil which is to receive the plant, but they do not heighten the inherent force which is normal to the seed. To explain certain special cases, which seem strongly opposed to such a view, and which point to the development *de novo* of the specific virus, the advocates of the strict contagious theory have attributed an extraordinary durability to the poisons of fever and of plague, and a power of lurking within the frame unaltered until the accessory causes have prostrated the force which at first successfully resisted them. . . . . .

"*The theory of modified contagion*, in seeking to determine the mode of non-contagious propagation, considers, with the greatest attention the media external to the human body, which surround the particles of any special poison. It regards the humidity and temperature of the air, its purity, its electrical condition, the weight of its column, and the movement of its masses. It questions what may be the exhalations from the soil, from decaying substances, from all the various natural or artificial peculiarities which vary the surface of the ground. In all these circumstances it sees a twofold action—an action upon a virus introduced among them—an action upon a human frame submitted to them. It seeks to determine what relative assemblage of these conditions is most favourable to the spread of a poison; it believes that, under its favouring conditions, some poisons introduced *ab externo* may augment by reproducing themselves. It goes even further than this; in certain cases, it sees, in an intense concentration of these several circumstances, a development *de novo* of that specific poison which is proper to that particular assemblage of conditions. On the banks of the Ganges it witnesses the cholera poison spring into existence; in the swamps of Batavia, the malignant intermittent passing into remittent; on the river marshes of Western Africa, the deadly remittent, from which springs the epidemic yellow fever; among the effluvia emitted from our great cities, or among the miserable hovels of a starving nation, the fever-poisons of this country; among the Fellahs of Egypt, with their peculiar rites of sepulture, and their pernicious customs of social life, the poison of bubo-plague. It attaches, also, much importance to the consideration of the occasional, and even periodical, augmentations in the vigour of the specific poisons, believing that these are partly dependent on influences exerted on these poisons by 'epidemic constitutions' of the atmosphere."

Having thus stated the general question at issue, our Author observes that Asiatic cholera manifestly belongs to the most strongly marked order of epidemic diseases, and then lays down with precision the object of his Paper.

"In the following inquiry, I do not intend to enter on the general subject. I am simply desirous of placing on record the evidence respecting the first cases of cholera in London, and to inquire particularly into the possibility of these cases having arisen from contact or proximity with persons already diseased.

"The strict contagionist theory has always considered that strong evidence in its favour was to be obtained from a study of the early cases. It claims to be always able to point out the channel of introduction,

and to trace the first steps of the malady; afterwards, when the sick have become numerous, it considers that persons may be exposed to emanations, and may sicken, without being aware that they have been so exposed. At this late period, therefore, the proofs of contact or proximity cannot be obtained; and negative evidence loses its value.

"The first twenty-five or thirty cases are then, in this point of view, most important. Did they arise together, or near each other? Were they exposed to sources of contagion, from which the other inhabitants of the district were exempt? Can each successive case be traced to a prior case, until the patients are too numerous to be followed up?"

And then the laws to be observed in weighing evidence:—

"It is necessary in examining evidence on this point to adopt two precautions.

"1. Every reputed case of the disease must be known.

"2. Every reputed case must be inquired into, and its exact nature determined; the loose accounts of by-standers and non-professional persons not being received as credible evidence."

'Having shown that he has in the "Inquiry" complied with these rules, Dr. Parkes proceeds to give brief notes of the first twenty-eight cases of true cholera which occurred in London during last autumn; and here, we must say, we wish the cases had been given at greater length. The brevity of these notes is the only fault we have to find with the paper and it puzzles us to conceive, why, as Dr. Parkes must have had the materials in his possession, he did not publish them. A few, two or three, pages more print, would have afforded all that could have been required. The following was the first case of true cholera:—

"The Elbe steamer left Hamburgh on the 22nd of September, and arrived in the river on the 25th. A seaman, named John Harnold, left the vessel, and went to live at No. 8, New-lane, Gainsford-street, Horsleydown. On the 28th of September he was seized with symptoms of cholera, and died in a few hours. It is stated in a letter to the General Board of Health, from Mr. Russell, who attended the patient, that all the characteristic symptoms of Asiatic cholera were present. Mr. Bowie, who inquired on behalf of the Board into the particulars of the case, corroborated this statement. This may then be considered as an undoubted case of cholera."

Dr. Parkes has arranged the twenty-eight cases he is considering, all of which, it will be observed, occurred in twelve days, in the subjoined Table:—

Date.		Locality.	In Contact or not with a Person labouring under Cholera.
Sept. 28..	John Harnold	Horsleydown	With the mate of his vessel, who was said to have died of cholera—case not certain, with cholera patients in Hamburgh.
Sept.	John Murphy	Lambeth	Not in contact with any cholera patient
„	Richard Cook	Chelsea	Ditto ditto ditto
Oct.	Jane Langham	Harp-court, Fleet-street	Ditto ditto ditto
	Owen Jones	Justitia Hulk, Woolwich	Ditto ditto ditto
	James George	Lambeth	Not known to be in contact with any cholera patient
	Daughter of above	Lambeth	In contact with her father
	Susan Cook	Chelsea	In contact with Richard Cook
	An old man	Horsleydown	Not known to be in contact with any cholera patient
	Robert Gordon	Dreadnought, Greenwich	Not in contact with any cholera patient
	John Healey	Lambeth	In contact with John Murphy
	Joseph Hill	Chelsea	Probably in contact with Richard and Susan Cook
	Mary Ann C.	Spitalfields	Not in contact with any cholera patient
	Sister of above	Spitalfields	With her sister
	William Cook	Chelsea	In contact with Susan Cook
	Son of above	Chelsea	In contact with his father and mother
	Elizabeth Morris	Chelsea	With the above
	John Rutherford	Justitia, Woolwich	With Owen Jones
	— Rabett	Dreadnought, Greenwich	With Robert Gordon
	James Bigwood	Justitia, Woolwich	With Owen Jones and John Rutherford
	Louisa Hill	Chelsea	With Joseph Hill
	James Paterson	Pool	Not known to be in contact with any cholera patient
	Rouse (a sailor)	Pool	Ditto ditto ditto ditto
	Mother of Mary Ann C.	Spitalfields	With her daughters
	James Baker	Bermondsey	Not known to be in contact with any cholera patient
	David Davison	Pool	Ditto ditto ditto ditto
	A convict	Justitia, Woolwich	With the convicts mentioned above
	A man, aged 41	Prescott-street, Clapham	Not in contact with any cholera patient.

"Horsleydown lies on the south side of the Thames, to the eastward of Bermondsey, and is situated close to the river, at a point nearly opposite to that where St. Katharine's Docks are placed. From Horsleydown to Lambeth, by the river, is a distance of several miles, as the Thames here makes a large curve. As the crow flies, however, Horsleydown is about two miles distant from Lambeth, or rather from Lower Fore-street, where the second case of cholera occurred. The two spots are separated by the districts of Bermondsey and Southwark, which compose an immense city, crowded with inhabitants. The spot in Chelsea, in which the next case occurred, is on the other side of the river, and close to Battersea-bridge; it is, in a direct line, about two miles from Lower Fore-street, Lambeth, and four from Horsleydown. Harp-court, Fleet-street, is in the City of London, about half way between Temple-bar and Ludgate-hill, and is separated from the Thames by the breadth of Fleet-street, and the length of the lanes running from Fleet-street to the river. As the crow flies, it is about two miles, or one mile and a half from both Horsleydown and Lambeth. It is about four miles from Chelsea. Woolwich is situated about eight miles from Horsleydown, ten from Lambeth and Fleet-street, and twelve from Battersea-bridge. The Dreadnought Hospital-ship lies off Greenwich, about three miles above the Justitia, and five from Horsleydown. Spitalfields, Clapham-common, and Bermondsey are also districts widely separated from each other. The spot in Bermondsey, in which the case occurred on the 9th of October (eleven days after John Harnold's case), was at the part of Bermondsey most remote from Horsleydown."

Having shown that the disease sprang up in these ten localities quite independent of personal intercourse, our Author next inquires, whether the two individuals, Owen Jones and Robert Gordon, residing respectively on board the Justitia and the Dreadnought, and who, by no stretch of the imagination, can be conceived to have held personal intercourse with infected persons, could have been exposed to some other source of contagion; and having satisfactorily disposed of this question in the negative, Dr. Parkes asks, Can any modification of the strict contagion theory explain the origin of these cases? To this also, after a most impartial examination of the facts, he answers in the negative:—

"The scrutiny to which these cases have been submitted, proves, that in the greater number of the localities—in all, in fact, except Horsleydown—the poison was not imported by any person ill of cholera arriving in the locality. Nor could it have been brought by the clothes or baggage of any persons coming from infected districts in England, as there were no infected districts from which such persons could have come. There is no evidence either of any persons arriving from the Continent, from Hamburg, or from Dantzic, to these localities. If such persons did arrive in London, it is most probable that they were connected with the shipping, and were, therefore, many miles removed from Lambeth, Chelsea, and the other places in question."

Our Author thus sums up—

"I may remark, in conclusion, that I have desired merely in this Report to apply the strict contagion theory to these early cases. I have decided that this theory cannot explain them. I have done so not merely on negative evidence that no contact or proximity between these early cases could be traced, but on positive testimony, that such contact or proximity was impossible. These cases are, then to be accounted for on other grounds; into these, however, I shall not at present enter more fully; contenting myself with the remark, that it appears to obable that the cholera poiso have entered the localities first infected by virtue of some peculiar force acting irregularly and partially, so as to drive the poison into one rather than into another locality;—or that the poison should have been actually generated in those localities under the influence of a general atmospheric condition cooperating with the local conditions proper to each place, than that it should have reached those localities by direct emission from diseased individuals in the vicinity or at a distance, or from clothes which had been in contact with infected persons.

"I feel, however, that, without enlarging my basis of inquiry I have no right to push this argument further. To do so with any effect, facts drawn from a more extensive series of observations would have to be passed in review.

"Whether or not the evidence which has satisfied my own mind will prove as satisfactory to others, I do not know; but I can affirm, that I have collected this evidence with impartiality, and have stated it with sincerity."

Would that all writers on the question of contagion could with equal *truth* declare, that their evidence had been collected with impartiality.

UNIVERSITY DEGREES.

[To the Editor of the Medical Times.]

SIR,—An anonymous correspondent in your last Number, whose experience of University education is evidently of a very limited character, endeavours to enlighten his Professional brethren as to the relative merits and value of the degrees from the various British Universities. He particularly singles out Edinburgh for *disparagement*, and *puffs up* St. Andrew's. Edinburgh enforces four years' University study, and gives a fair and strict examination, which it requires more than average attainments to pass. If your correspondent will look over the list of eminent provincial physicians, he will find nine out of every ten are Edinburgh men. *The business of diploma-granting* at St. Andrew's commenced when I was a student in Edinburgh, when many of the *private teachers* were made *Professors*, and their pupils, as a matter of course, passed their examinations at St. Andrew's with great *eclát*, and got their cheap diplomas without the trouble and expense of a regular graduation at the University of Edinburgh. I was solicited by a Professor, but preferred staying two years longer to obtain a degree I should not in after life be ashamed of. No doubt, many eminent English surgeons have since found their way to St. Andrew's to obtain a degree at little expense and no loss of time; but the examination alone is no test of a person's abilities, for I have known the most ignorant passed at St. Andrew's by a few weeks' grinding. Whilst such men as Alison, Christison, Syme, &c., fill the Edinburgh chairs, the degree of M.D. from that University will never be considered second-rate.

I am, Sir, your obedient servant,

S. D. LEES, M.D. and F.R.C.P. of Edinburgh, M.R.C.S.L. and L.A.C.L.

Ashton-under-Lyne, July 7, 1849.

VACCINATION AND UNION SURGEONS.

[To the Editor of the Medical Times.]

SIR,—It has been my intention for some months to address a few lines to you on the subject of vaccination, and to expose its mode of practice as at present conducted, which, if continued, seems not a little calculated to degrade the Profession more than anything that has occurred for some years past. One of your Correspondents some months ago proposed that the Poor-law Unions should pay all medical men for vaccination. This is scarcely to be expected, nor would it be at all desirable on their present terms: persons might as well expect the Legislature to provide payment for other minor operations in surgery. Another of your Correspondents about the same time said, that 1s. 6d. was too little to be paid for the attention required for such operation; consequently, the smallpox was on the increase. In this I quite agree. But the facts I wish to point out are simply these:—That in some parts of Yorkshire (and I should suppose it to be much the same in other counties), many of the Union surgeons have stated *that they only* are empowered to *vaccinate by authority*, not only paupers, but the children of all other persons, and in this way they very frequently obtrude their services on their neighbours' patients unsolicited, offer to

vaccinate their children gratis, or for some small fee, when at the same time they enter them in their returns to the Board as successful cases to be paid for by the Union as paupers, however respectable the parties may be, or whether they are paid a higher fee or not at the time. They are not prevented by the present law from being paid twice, but, if not always so fortunate, it gives them an excellent opportunity of appearing *most generous, very considerate, and kind-hearted*, and it has often been a considerable means of their attending such family afterwards, should an opportunity occur. The consequence is, that the neighbouring practitioners are now frequently compelled to vaccinate the children of private and respectable patients *gratis*, to prevent such obtrusions on their practice. One of these kind gentlemen called upon a lady, the patient of a friend of mine, a short time ago, to inquire who was her medical attendant, as he wished to present him with a glass of very fresh lymph, just taken from the arm of Lady ——'s son. Of course, the object of this visit was quite apparent, and the offer very properly declined. I think if the Legislature had provided for the paupers only, the other portion of the community would have paid their own medical attendants for vaccination, as they did before the Unions were established. This appears to be the most reasonable way of settling the present vexatious mode of practice. I may mention, that, when vaccination was first introduced, many of the old surgeons charged 10s. for each child in a respectable family, and 5s. for humbler classes. Though it is an operation requiring very considerable care and attention, we are now very frequently obliged to perform it gratuitously in self-defence. This, I hope, Mr. Editor, is another instance of the necessity of a speedy reform in our Profession, and also that a more liberal system of payment may be adopted by its respectable members, who are so frequently called upon to perform urgent services to their fellow-creatures without the slightest prospect of any remuneration.

I am, Sir, yours obediently,

VERITAS

MEDICAL NEWS.

APOTHECARIES' HALL.—Names of gentlemen who passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, 5th July, 1849:—Daniel Meadows, Wetnesham, Suffolk; William Byron Hill, Exeter, Devon.

ROYAL COLLEGE OF SURGEONS.—The following gentlemen having undergone the necessary examinations for the diploma, were admitted members of the College at the meeting of the Court of Examiners on the 6th instant:—Messrs. Edward Batwell, Charleville, county Cork; Hugh Cuolahan, Great George-street, Bermondsey; Henry Welsh, Grenada, West Indies; Walter Murray Sedgwick, Antigua, West Indies; Samuel Henry Hobart, Cork; William Prowse, Bristol; William Garrard, Bristol; Robert Ingram Stevens, Islington; George Evans, Seaton, Devon; George Peacock, Dublin; and Charles France, London.

APPOINTMENTS.—Mr. Ryder, late of Greenwich, has just been appointed Resident Surgeon of the Royal Kent Dispensary, Deptford, in the vacancy occasioned by the lamented decease of Mr. W. Arundel Burridge.

COLLEGIAL ELECTIONS.—At a meeting of the Council of the Royal College of Surgeons on Thursday afternoon, for the election of officers, &c., Mr. Joseph Henry Green, F.R.S., and Surgeon of St. Thomas's Hospital, was elected President; and Messrs. James Moncrieff Arnott, F.R.S., Surgeon to University College Hospital, and John Flint South, Surgeon to St. Thomas's Hospital, were elected Vice-Presidents of the College for the ensuing year. At the same meeting, Messrs. Hodgson and Wormald took their seats as members of the Council.

OBITUARY.—On the 5th ult., at Funchal, Madeira, Dugald M'Kellar, Esq., M.D, formerly of Battersea, Surrey.—On the 4th inst., at Chertsey, Sir John Chapman, F.R.C.S., late of Windsor, aged 78.—On the 10th inst., in Albemarle-street, in the 67th year of his age, Sir William Hyde Pearson, M.D., F.R.S.

MEDICAL REFORM AND THE LORD ADVOCATE'S BILL.—We have been informed, upon good authority, that the Government proposes to introduce into the House of Commons, even at this late period of the session, a Bill for the better regulation of the Medical Profession. It is not the intention of the Lord Advocate to proceed with the measure during the present sitting of Parliament, but simply to place the Bill before the Profession and the country. We consider this a most judicious proceeding, as Medical men will have an opportunity of well considering every clause, and, by the meeting of Parliament next spring, to have organised their forces either to oppose or support the Bill. It has been intimated to us that it contains many excellent clauses in favour of General Practitioners.

THE CHOLERA.—This disease has been spreading in London and the provinces. At Liverpool, Manchester, Worcester, Portsmouth, and some other large towns the mortality has considerably increased, and is attributed to "cholera." In the metropolis it has appeared again at the Milbank Penitentiary, and continues to cut off its victims in the neighbourhood of Bermondsey and Rotherhithe. It has been stated, that persons living in the vicinity of graveyards are especially liable to attacks of cholera. We know this to be true, yet every parish burying-ground in the metropolis is continually receiving additions of putrifying animal matter to its already surcharged soil. The Bishop of London is said to have refused to prohibit the interment of bodies in the Farringdon-street burying-ground, surcharged with corpses, and in a neighbourhood where the cholera has made its appearance. The disease still continues in Blackfriars; and Mr. Houlding, surgeon, at an inquest held on Wednesday evening last, stated, that many cases in other parts of the town had arisen in persons who had spent a greater part of the day in Blackfriars. We subjoin the Registrar's report for the week of the health of London. The whole mortality is rather high, as compared with the numbers returned from week to week, during the last two months. There is an obvious increase in deaths caused by zymotic or epidemic diseases, with a decrease, though not to an equal extent, in those produced by affections of the respiratory organs. In the former class, during the last three weeks, the deaths have been progressively 277, 349, and 393; the latter, the numbers in the same weeks were respectively 119, 105, and 87. Hooping-cough numbers 47, or double the usual amount of fatal

Diarrhœa increases a little; but the deaths from it which last week were 46, have not reached the average of the season, which is 76 for in the previous years, chiefly in a more advanced part of the quarter, this complaint has carried off many children of tender age. In the corresponding week of 1846 the deaths from diarrhœa were 70. Two cases are reported of children who died,—one of diarrhœa, another of hydrocephalus, at No. 3, Linney-court, Museum-street, where the back of the house has no windows, and the smell from drains, and other nuisance in front, is extremely offensive. The average at this season, from cholera, is only 8; its recent progress is shown by the deaths in the last six weeks, which were successively, 9, 22, 42, 49, 121, and, in last week, 152; namely, 94 of males, and 58 of females. Of the 152 victims of this disease, 19 were under 5 years of age, 30 at 5 and under 15 years of age, 88 between 15 and 60 years, and 13 at 60 and upwards. The ages of 2 are not returned. It is worthy of observation, that not more than 14 deaths from cholera, last week, occurred in the west and northern districts, though the population which they comprise is about a third of the whole. On the south side of the Thames there were 93; and in this region the districts of Rotherhithe, Lambeth, and Bermondsey are fatally distinguished. Other epidemics differ, at present, not much from the average. A young man died of "want" in Camden-town, and an infant of "exposure to the night air and purpura hæmorrhagica," in the Borough-road sub-district. A man of 48 died of "paralysis from working in a lead-factory, after an illness of 13 weeks." Mr. Butterfield, the registrar of Islington East, has recorded what he describes as "a curious fact," but without stating his authority, that women, employed in this manufacture, last much longer than men.—[This statement is worthy of attention.]

MR. JUSTICE COLTMAN died on Wednesday morning. His Lordship was taken ill on Monday last, with cholera, as we understand, and on Tuesday night was found to be in so exhausted a state that his life was despaired of.

THE PROVINCIAL MEDICAL ASSOCIATION.—The Thirteenth Anniversary of the Lancashire and Cheshire (hitherto Newton) branch of the Provincial Medical and Surgical Association, was held at the Albion Hotel, Manchester, on Thursday week. In the absence of the President for the year, Robt. Thorp, Esq., (who was prevented attending by indisposition,) the chair was occupied by Sir Arnold Knight, M.D., Liverpool. Amongst the members and visiters present, were, Dr. Lyon, Dr. C. W. Bell, Mr. Turner, Dr. Radford, Dr. M. A. E. Wilkinson, Mr. Hatton (hon. sec.), Dr. Pincoffs, Mr. Whitehead, Mr. Williamson, Mr. Dorrington, Mr. Lambert, Dr. Black, Mr. Lund, Mr. Crompton, Mr. R. H. M'Keand, Mr. John Kirkman, Mr. Richmond, Mr. Winterbottom, and Mr. Bowring, Manchester; Dr. Macrorie, Dr. Watson, Mr. Burrows, Dr. Dickinson, and Mr. J. A. Pearson (Vice-President), Liverpool; Mr. Flint, Stockport; Mr. Sharp, Warrington; Mr. Wilson, Runcorn; Mr. Fawsitt, Oldham; Mr. R. Rigge, Woolton; Dr. Broughton, Preston; Dr. Welsh, Eccles; Mr. Halkyard, Mossley; Mr. Mauley, Tyldesley; Mr. Pegge, Newton Heath; Mr. Brooke, Stockport; Mr. Darcey, 30th Regiment; and Mr. E. Inge. After the business of the meeting was transacted, and several interesting subjects connected with the Profession discussed, the gentlemen present sat down to a sumptuous dinner.

QUEEN'S COLLEGE, BIRMINGHAM.—At the meeting of the Council, held on Tuesday, July 3rd, the Rev. Chancellor Law, the Vice-Principal, in the chair, Mr. George Bellasis Masfen, of Stafford, was enrolled in the list of Fellows, under the provisions of the Supplemental Charter. Mr. George Bellasis Masfen distinguished himself as Warneford Medallist for the year 1847.

PRIVATE LUNATIC ASYLUMS.—At a meeting of magistrates, held last week at Gloucester, a most animated discussion took place in reference to the private Lunatic Asylums in the county. A Report was read by the Chairman, in which he recommended some very important alterations in the government of private institutions for the insane. We will advert to the subject more at length next week.

TESTIMONIAL OF ESTEEM.—On Monday we k a gold watch, with appendages, was presented to Walter M. Kelly, Esq., Surgeon, Leadgate, by the workmen of the Derwent Iron Company, as a tribute of gratitude for the valuable professional services of that gentleman. It is not often that we have to record instances of public respect like this to the members of our Profession. The tribute of gratitude to Mr. Kelly, coming, as it does, from "workmen," must be highly pleasing to that gentleman, for it is a testimonial of more real value, in a moral view, than splendid services of plate presented by the affluent to their favourites.

SEAMEN'S HOSPITAL-SHIP.——The "Dreadnought," lying off Deptford, is ordered to Woolwich, to be docked and examined, in order that a better provision may be made for ventilating her lower deck. The patients are to be sent on board the "Iphigenia," late Marine Society's receiving-ship, and the "Devonshire," which latter vessel is now lying alongside, where it will remain during the time the "Dreadnought" is being repaired.

PUBLIC HEALTH BILL FOR SCOTLAND.—We understand that information, founded on authority which may be relied on, was received in Edinburgh on Monday, that the Public Health (Scotland) Bill had been *dropped* for the Session.

MORTALITY TABLE,

(Metropolis.)

For the Week ending Saturday, July 7, 1849.

Causes of Death.	Total.	Average of Five Summers.
All Causes	1070	1008
Specified Causes	1066	1005
Zymotic (or Epidemic, Endemic, and Contagious) Diseases	893	302
Sporadic Diseases:		
Dropsy, Cancer and other Diseases of uncertain or variable seat	36	44
Tubercular Diseases	173	190
Diseases of the brain, Spinal Marrow, Nerves, and Senses	115	119
Diseases of the Heart and Blood-vessels	38	29
Diseases of the Lungs, and of the other Organs of Respiration	87	81
Diseases of the Stomach, Liver, and other Organs of Digestion	68	76
Diseases of the Kidneys, &c.	8	11
Childbirth, Diseases of the Uterus, &c.	11	7
Rheumatism, Diseases of the Bones, Joints, &c.	6	7
Diseases of the Skin, Cellular Tissue, &c.	1	2
Malformations	1	3
Premature Birth and Debility	16	22
Atrophy	26	25
Age	32	43
Sudden	17	8
Violence, Privation, Cold, and Intemperance	38	36
Causes not Specified	4	3

The following is the number of Deaths occurring from some of the more important special causes:—

Apoplexy ...	16	Heart	[illegible]	Phthisis	126
Bronchitis ...	35	Hooping-cough	[illegible]	Pneumonia ...	38
Cholera	152	Hydrocephalus	27	Scarlatina	13
Convulsions ...	11	Influenza	2	Small pox	3
Childbirth	4	Lungs	4	Stomach	2
Diarrhœa	46	Liver	13	Teething	11
Dropsy	11	Measles	20	Typhus	16
Erysipelas ...	8	Paralysis	18	Uterus	7

BIRTHS AND DEATHS.

	Births.	Deaths.	Births over Deaths.
Males ..		566	69
Females	642	504	138
Total	1277		

METEOROLOGY OF THE WEEK.

	Mean of Barometer.	Mean of Thermometer. Dry.	Ditto. Dew Point.	Difference between the Mean Temperature of the day and the same day on an average of 7 years.	General Direction of Wind	Amount of Horizontal Movement of the Air.	Rain in Inches.	Positive and Tension moderate. On Jul
Sunday ..	29·900	60·2	47·4	+0·9	N.N.W. and	[illegible]	[illegible]	[illegible]
Monday.	[illegible]	[illegible]	[illegible]	[illegible]	N.	[illegible]	[illegible]	[illegible]
Tuesday.	[illegible]	[illegible]	[illegible]	[illegible]	S.	[illegible]	[illegible]	[illegible]
Wednesd	[illegible]	[illegible]	[illegible]	[illegible]	N.	[illegible]	[illegible]	[illegible]
Thursday	[illegible]	[illegible]	[illegible]	[illegible]	S.	[illegible]	[illegible]	[illegible]
Friday ..	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Saturday	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

TO CORRESPONDENTS.

Our friends overwhelm us with kindnesses. The quantity of the communications we receive, assures us our endeavours to administer to the *real* wants of the Profession, so far as journalism is concerned, are fully appreciated, while a daily increasing subscription-list evidences, that honesty and integrity of purpose, fearlessness of consequence in exposing wrong, and an anxious endeavour to give praise and support when merited and due, will ever meet with reward, and the substantial support of all "good men and true." If, however, we are sometimes backward in replying to our friends, they must occasionally bear with us, and rest assured, that their suggestions seldom fall in barren places.

Again, certain of our friends are in the habit of writing to us in a half private, half public manner. This is very inconvenient, since we can neither avail ourselves of their communications in the pages of our Journal, nor find time to reply to them privately. It is also injurious to our readers, since much valuable matter is thus rendered useless. We have also to request, that all communications intended for the Journal may be addressed to the Editor, 117, Strand, London.

We will attend to Dr. Barker's request, which, however, we had not forgotten.

"Chirurgus," on University Degrees, will receive a place in our next Number.

"Mr Blench's" cases of dry cupping in intermittents will be published. It always gratifies us to find our notices of foreign practice responded to at home.

"Chirurgus," in a note to our publisher, requests to be informed as to the best mode of preparing the fluid extract of Taraxacum, the time of year the Dandylion should be gathered, the part of the plant used, &c. &c. All these questions he will find answered in any pharmaceutical text book. We can, however, assure him, he can save himself much trouble, if not expense, by purchasing the extract ready prepared. And we recommend him, if he still requires practical information, to pay a visit to Mr. Hooper, operating chemist, Pall-mall East, with whose mode of preparing vegetable extracts *by cold*, we think he will be as much pleased as we ourselves have been.

"A Reformer of Abuses" forwards us a communication on Medical Education. We have received it at too late a period to offer an opinion, or to make any promise for its publication.

"Dr. Venable's" interesting paper on Hæmaturia and its diagnosis, will appear next week.

"R. C." can obtain information concerning any German University by addressing, post-paid, a letter to its Rector, in English if he pleases.

"A. B." next week.

"J. M. Meath."—The metallic brush is an instrument recommended by Westring for applying the galvanic current to any particular part. It consists of a plate of ebony fitted to another of gold, in which are fixed thread of the same metal. The instrument is connected with a voltaic battery.

"Neo-chemicus"—(1) Scheele discovered that oxalic acid could be artificially formed from any organic substances by means of nitric acid. (2) Starch and sugar are mixed with from eight to ten times their weight of nitric acid, and heated in a water bath. Solution takes place readily with evolution of nitrous acid. After concentration and refrigeration, chrystalized oxalic acid is obtained, to the amount of one-sixth part of the weight of the materials employed.

"M. B." Admission tickets to the library of the College are not transferable.

"A College Member"—Members of the Apothecaries Company are those who constitute the incorporated society; licentiates, those who have, obtained the certificate to practise as apothecaries

"A St. Thomas's student."—The appointment of assistant-surgeons in the army rests with the Director-General, Sir James McGrigor, to whom a letter should be addressed. (2) Assistant-surgeons in the navy receive their appointments from the Lords of the Admiralty, upon the recommendation of the Director-General, Sir William Burnett, before whom the candidates have to pass an examination.

"Theodore, Manchester"—The disease is dependent upon a peculiar irritability of the retina, produced by two different causes,—a sudden exposure to a stronger light than the eye has been accustomed to sustain; and a deficiency of the pigmentum nigrum.

"An occasional Correspondent"—The surgeons of the last century recommended the use of the actual cautery; but if the tumor is thoroughly removed, with some of the sound parts, there is no danger of the disease returning.

"Counterblast" wishes to know if it is really a fact that tobacco smoking is a prophylactic against cholera. Such a statement has been made, but we are disposed to think without any good foundation.

"M.R.C.S, Lond."—The degree of M D. is derived from so many sources, that we are unable to give our correspondent the information he demands.

Mr. A. B." 1. Senile gangrene is sometimes rapid in its progress. Any respectable work on surgery will furnish an answer to the second question.

A Physician" is of opinion, that no Medical Reform Bill will be complete which does not provide that youths, previously to entering the profession, shall undergo a strict examination in the classics. He thinks, that early discipline of the mind the better fits it for the after study of abstruse sciences.

A. M., Bradford.'—Hydrocyanic Acid, perfectly pure, can not be preserved; it decomposes spontaneously, whether exposed to the light or kept in the dark; a small quantity, however, of sulphuric or hydrochloric acid prevents decomposition.

"Medicus" is right in the statements he has made. The letter, however, is too long for insertion. The question of the propriety of a repeal of the tax upon light and air has not been overlooked by sanitary reformers. There is no doubt that the present window duties act injuriously upon the poorer classes by limiting the number of windows in their houses. Air and light are as essential to health as an abundant supply of pure water and well-constructed sewers.

"Hibernicus" would not be able to practise in London.

"Leon."—We know of no remedy for the disease.

"Anglican."—Degrees in medicine at the University referred to are conferred at two stated periods annually, viz., at the end of April and July.

"A Subscriber, Hackney."—Chronic acites, we believe, has been successfully treated by tincture of iodine injected into the peritoneum. We have not, however, had an opportunity of seeing any cases in which it was employed.

"M.D. and an Old Subscriber."—The symptoms of apparent weakness should not lead to inactive treatment; but energetic anti-phlogistic measures should be adopted to relieve the inflammation which constitutes the physical cause.

"A Medical Practitioner."—The artificial inflation of the lungs of a child born dead may cause them to float in water.

"Galen."—The average time at which death takes place in poisoning by arsenic is probably about twenty-four hours; but life, of course, may be destroyed in a much shorter time.

"A Student, Bristol."—In the French Codex Medicamentorum, liquids are used by weight.

"Lector."—Of the true nature of electricity nothing is positively known.

"F. L. G."—Yes Esquirol attached great importance to the suppression of certain cutaneous affections as a cause of insanity

"Edinburghensis."—At present, great doubts on the subject exist.

"Civis."—An application, addressed to the President through the Secretary, with a recommendation of two members belonging to the Society, would be the means of a respectable applicant effecting his object.

"Inquirer"—There are several good elementary works on the science mentioned by our correspondent. By naming one in particular, we should unfairly advertise it.

"Δ."—The diploma of the College of Surgeons would be sufficient.

"A Country Subscriber."—We know of no specific for the cholera. Should our correspondent be so fortunate as to discover one, we shall be happy to give it an early announcement in the "Medical Times."

"J. —."—The Reports must be forwarded before we can give an opinion of their suitableness for publication.

"Chemist" should consult Paris's Pharmacologia, where the formula is given.

"Medico Chirurgus" ought not to place any reliance on the statement alluded to.

"G., Cardiff."—No alteration has yet been made in the Physician's Charter.

"Vindex."—It would be illegal, and the person would subject himself to penalties.

"M.D. Edin."—The Commissioners would not sanction the appointment.

"George."—1. The Parisian diploma of M D. is a difficult one to obtain. 2. It would not entitle the possessor to practise as a physician in England.

"Mr. Hall"—In answer to both questions, No.

"Q. S" shall receive an answer next week.

"Nem"—We have no doubt of the correctness of our Correspondent's remarks, but must decline publishing the letter

We have received a letter from Mr. Churchill, respecting a notice in a late Number, of Mr. Dalrymple's excellent Work on the Eye, in which we stated, that "were the price less we did not doubt it would become as much in vogue as Mackenzie's work on the same subject." Mr. Churchill totally mistakes the bearing of these remarks. We were very far from thinking the work in question to cost more than it was worth—on the contrary, we think it, as a book, cheap; and so we stated it to be, saying it was "above price" to the country practitioner. But still the price, although small in comparison with the value of the book, is too high for the Profession generally; in fact, they cannot afford to purchase it. Book societies, however, have this advantage, that they enable the many to read and to consult that which the few cannot aspire to possess.

A "Mr. J. O. Browne" writes us very cleverly and jocosely upon the plague of skin disease books which has lately fallen upon the profession. Although he proposes a strange remedy—brandy and salt—we shall publish his letter, with a few remarks of our own.

"Medical Provident Institution."—We had prepared some observations upon this new Proposal. Press of matter, however, leaves no room for them in the present Number.

We have many volumes waiting for review. Amongst others we hope soon to be able to notice—

Mr. Noad's Lectures on Electricity.
Dr. John Scoffern, on the Manufacture of Sugar.
Mr. Stanley, on Diseases of the Bones.
Dr. Bennet, on Inflammation of the Uterus.
Mr. Wade, on Strictures of the Urethra.
Professor Meig's Treatise on Obstetrics.
Professor Owen's Works on Parthenogenesis, and on the Nature of Limbs.
Mons. Dubois' Traité de l'Art des Accouchements.
Dr. Addison, on Consumption and Scrofula.
Dr. Robert Lee, on Diseases of the Uterus.
Dr. Carey, on Cod Liver Oil, &c. &c. &c.

We hope next week to review the contents of the "Phychological Journal" for the July quarter.

ORIGINAL LECTURES.

HUNTERIAN LECTURES.

ON THE

GENERATION AND DEVELOPMENT OF THE INVERTEBRATED ANIMALS.

By RICHARD OWEN, F.R.S.,

Hunterian Professor and Curator of Museum of Royal College of Surgeons, Corresponding Member of the Institute of France, &c.

[Reported expressly for the "Medical Times," and revised by the Lecturer.]

LECTURE IX.

GENERATION OF ENTOZOA. — Succession of Trematode individuals under different forms and grades of structure from the multiparous ova. Spontaneous fission of Microstomum and Planariæ. Multiplication of the latter by artificial division. Diœcious generation of ACANTHOCEPHALA. Testes and their axial mesorchium: varicose sperm-ducts, sperm-vesicle, prostates and penis. Numerous free ovaria; oviducts and uterus suspended from a mesometrium: their active movements. Development of the uncinated embryos of the Echinorhynchus. All the Cœlelmintha diœcious. Generative organs of the fluke-like Linguatula. Capillary type of the testes and ovaria in the NEMATOIDEA. Testes and sperm-duct a single continuous tube in all: penis double in some species. Various forms and appendages of preputium. Ovaria and oviducts continuous; usually double. Rachidian arrangement of ova, and their enormous number in the *Ascaris lumbricoides*. Various situations of the vagina in different species. Development of Ascaris and Strongylus. Viviparity and metamorphosis of the Guinea worm. Probable larval nature of *Trichina spiralis*. Bearing of the known generative phænomena of Entozoa on the hypothesis of spontaneous generation.

When the Entozoologist contemplated the *tænia* fixed to the intestine, with its uncinated and suctorious head buried in the mucous membrane, rooted to the spot, and imbibing nourishment like a plant, when he saw the sluggish *Distoma* adhering by its sucker to the serous membrane of a closed internal cavity, he naturally asked himself how got they there? And finding no obvious solution to the difficulty of the transit on the part of such animals, he was driven to the spontaneous-generation hypothesis to solve the difficulty. It is no wonder that Rudolphi and Bremser, who studied this instructive class rather as Naturalists than Physiologists, should have been led to apply to them the easy explanation which Aristotle had given for the coming into being of all kinds of Vermes, viz., that they were spontaneously generated. No other explanation in the then state of the knowledge of development of the Entozoa appeared to be adequate to account for the fact of their getting into the interior cavities and tissues of higher animals. Subsequent researches have, however, shown that the tape-worm quits the ovum as a minute locomotive *Echinococcus*; and that, when it finds its way into the interior of the alimentary canal it is already provided with six uncinated organs for the purpose of attaching and fixing itself. The chances against the introduction of such a minute ovum or embryo are, of course, great, but these impediments are met by the incredible numbers that are developed in a single individual of the *Tænia* and *Bothriocephalus*. The mode of introduction of the *Entozoa*, of the order *Trematoda*, becomes in like manner more intelligible as the phenomena of their development are better understood. Certain fresh-water snails are infested by Entozoa of this order, as the *Limnæa stagnalis, e.g.* by the *Distoma tarda*. The ova, or products of the ova, of this species are found in early summer, adhering in vast numbers to the inner surface of the respiratory cavity, and to the exterior of the lobes of the liver and generative organs of the snail; where they increase in size, and detach themselves as free animalcules, assuming a bright yellow colour, whence they were called by Bojanus "konigsgelben Wurmern," and manifesting a twisting vermicular motion. If one of these be microscopically examined, none of the lineaments of the organs of the future *Distoma* can be discerned; they resemble in structure rather the *Gregarinæ*, consisting, in fact, of little else than the cell-progeny of the primary germ-vesicle. Few of the cells have perished as such, or have been metamorphosed, save those that have gone to form the outer contractile skin, whilst still fewer have been liquefied and absorbed into a larger subcentral cell.

As the growth of this Gregariniform parasite proceeds, a progeny is seen to rise in its interior by the development of several of the contained germ-cells into embryos; these gradually acquire a cephalic spiculum and a caudal appendage; they escape from the parent cyst and from the snail, and disperse themselves as free swimming ciliated cercariform animalcules in the water. After a brief enjoyment of this free and active state of existence, they shrink in size, the vibratile tail is cast off, and they attach themselves to the skin of the snail. Here they become buried, form for themselves a pupa-case out the condensed mucus, and are metamorphosed into true *Distomata*, which gain their parasitic habitat by piercing the soft integument of the water-snail. Thus we have a Trematode entozoon, successively assuming the form of a *Gregarina*, a *Cercaria*, and a *Distoma*; many individuals under the two latter forms being developed out of one impregnated ovum.

Professor Siebold has traced the metamorphoses of another species of *trematoda* up to a certain point, the rest being made intelligible by the analogy of the trematoda of the snail. He found that certain water-fowl were, at particular seasons, infested with a small kind of fluke worm, the *monostoma mutabile*. Rudolphi and others had described them in the alimentary canal; Siebold likewise found them in the air-cells of the abdomen. He discovered this species to be viviparous, and observed the act of bringing forth, when the *monostoma* was placed in cold or luke-warm water. The ova and embryo are developed as in the tænia. The first germ-cell appears in the midst of a thick granular germ-yolk; it multiplies, and its progeny, as they become smaller, and more numerous, break through or divide the yolk, and finally consume it. The embryos escape from the vulva, close to the penis, and swim briskly, while the egg-shells fall to the bottom. Sometimes an egg was excluded, containing the embryo, which soon escaped. It is 1-9th of a line in length, of a long oval shape, with a truncated head and a rounded tail-end. On the upper part of the head are a pair of square dark pigment-spots, which reminded Siebold of the eyes of the cercaria. The smooth ciliated integument includes a delicate parenchyma, laden with granules, and in the centre a clear, colourless, firm body, answering to what the nucleus is in the ordinary cell. This body was pointed at one end, enlarged, and with three short thick processes at the other. But he was surprised to find that this body, in the inside of the embryo, presented distinct and independent movements, so that he had here no fewer than three creatures successively included in one another: the monostoma in the water-fowl, the embryo in the viviparous monostoma, and the smooth triradiate contractile organism in the embryo. After the ciliated larvæ had swam about for some time, they sometimes sank to the bottom, with the fore part motionless and dead, while the hind-part still contracted and exhibited the ciliary movements. Some embryos would thus swim by the hinder half, whilst the fore-part was decomposing into its component granules; and, at length, the little smooth triradiate firm body comes forth entire, exhibiting feeble motions. After its escape, it begins to show an extremely fine granular structure; but not a trace of a proper organ. Here Siebold's observations were arrested. He asks if this can be regarded as an accidental parasite of the embryo; but remarks, that it is too constant an occurrence. He did not meet with one embryo without it. He was, also, struck by its resemblance to the "King's-yellow worms" of Bojanus. Steenstrup, however, has resumed and pursued the inquiry. He found that this gregariniform organism grows rapidly, after having first attained their proper element, the water. But how do they get into the water? It is supposed, that the trematode embryos, by means of their cilia, work their way either from the intestines, per anum, or through the abdominal air-cells and trachea, and escape by the glottis and mouth into the water, and there liberate the gregariniform organism. Here we have the next series of changes. The fine nuclei or granules with which its parenchyma abounds, become the centres of a series of developments which result in the whole creature being made a parental cyst for some scores of cercariæ. The metamorphosis of such cercarial larvæ into trematode worms, has been repeatedly witnessed by good observers. If any Cercariæ are swallowed with the water by the water-fowl, then, of course, we have a ready mode of accounting for the presence of the monostoma in the alimentary canal. Or a Cercaria taken into the mouth might pass down the undefended glottis, and so get to the lung or air-cell; or it might insinuate itself into the infra-ocular cell of a diving-bird, where also the *Monostoma mutabile* has been found.

Steenstrup cites the successive stages of active and independent life that are manifested between the ovum and the oviparous or viviparous trematode worm as examples of "alternate generation;" the cercariform being is the "amme" or nurse of the trematode worm; the "king's yellow-worm" or gregariniform being is the grand-nurse "grossammo;" the ciliated monadiform larva is the great-grand nurse. This is an exposition of the main facts in figurative language, but is not an explanation of them. What we require are the conditions of structure, which give or admit of the power of procreation without the coitus or act of impregnation in the procreating animal. They appear to be these; and they are revealed by examining the structure of the entozoon in question in the several stages of its genetic cycle, comparing them with each other and with the changes operated in the ovum by the reception therein of the spermatic principle. In the development of the monadiform larva of the monostoma or distoma, either the vitelline membrane is metamorphosed into the ciliated skin of the larva, or this is formed by the metamorphosis and coalescence of the peripheral layer of the germ-mass. But, admitting the latter process, no other parts of that impregnated germ-mass are changed excepting those which form the external contractile and ciliated integument; there is no mouth, no stomach, or other internal organs, and no members; the only change which has taken place in the impregnated germ-cells is rather a kind of change of the relative position of the essential spermatic or clear nuclear matter, which has become aggregated in the centre of the locomotive larva, which may be compared to the locomotive germ or spore of an alga or sponge. It is, in fact, a single celled animal with a ciliated as well as a contractile cell-wall.

In a short time after it has escaped from the ovum the ciliated integument ruptures, and its contents disappear, with the exception of the concentrated nuclear matter, which is left clear and distinct, and of a definite form. A spontaneous movement is observed in this body: it grows, and now a granular structure may be seen in it under a high magnifying power. Before its escape it seems to be a compact structureless mass; but afterwards numerous points or centres of independent force begin to operate, and give rise to multitudinous minute granules or nuclei, and it takes on a structure comparable to that of the Gregarina. Now, what is the condition of this second phase or form in the metagenetic progress of the entozoon?

It will be observed, that the embryo of the monostoma, when it quits the ovum, is not like the chick; the primary germ-cells have not been converted into numerous and diversified tissues and organs; the great majority of them remain unchanged, and without exhaustion of the spermatic force. This force would seem to be concentrated in the clear nucleus, which expands to constitute the smooth-skinned Gregariniform worm. In this, as in the pseudo-navicellar capsules, numerous unchanged germ-cells or nuclei set up as many centres of development, from each of which a cercariform embryo results. In this process, many of the germ-cells and nuclei are metamorphosed into organs, and a corresponding proportion of the spermatic force is exhausted. What remains serves to govern the subsequent developments, which result in the change of the individual Cercaria into a

Monostoma or a *Distoma*; this is a metamorphosis; but the antecedent phases should rather be called a matagenesis, and the conditions essential to that act are the retention of a due proportion of the primitive germ-mass unchanged, and with its primarily received spermatic force unexhausted.

Some of the Trematode Entozoa are remarkable on account of the places they are found in; for instance, some species, as the *Diplostoma volvens*, infect the interior of the eye of the perch and other fishes. The pupa of this species has been found in the eye of the perch, coiled up, adhering to the inner side of the cornea, and then there has been observed an oblique line, or trace in the cornea, which shows how it bored its way through to get there. But frequently it does not get so far, and one finds such pupæ in cases like a watch-glass adhering to the skin or conjunctiva outside the eye. It is probable that different stages of the *Diplostoma volvens* have been described as distinct species, and that the *Holostomum cuticola*, Nordmann, is the pupa, and Diplostomum clavatum, the larva of the same species.

A few words with regard to the Planariæ. These creatures have the outward form and inward structure of the trematode entozoa, only that they retain throughout their life the little eye-specks and ciliated skin which characterise the larva *Monostoma*. In general, the alimentary cavity presents such an organism as we find in the *Distoma hepatica*. The female organs are well developed and they propagate by ova. But it has been observed that they present a greater number of unchanged nucleated cells and nuclei; and co-existing with these is the power of propagating by spontaneous fission, and also the power of recovering from injury, and of redeveloping the entire animal from a severed part. But the ordinary development is by ova; and it is remarkable to watch the instinct of these animals during oviposition; although they have no limbs, they take the ova as they are excluded, but covered with a gelatinous fluid, which they draw out into threads, and thus fix the ova to the stems of little aquatic plants. All this is done by the flexible and extensile mouth and neck.

Proceeding next to the higher orders of the Entozoa, all these are diœcious, or of distinct sex. The males are smaller than the females, and always less numerous. The first of these orders is the *Acanthocephala*. The worms of this order resemble the Nematoid Entozoa in outward form, and in the distinction of the sexes, but in their digestive system they still manifest the sterelminthic type.

The species of this order constitute but one genus, *Echinorhynchus*, characterised by a more or less elongated, round, sub-elastic body, the head having a retractile proboscis armed with recurved spines. The *Echinorhynchi* abound in the lower animals, and are some cylindrical, and others sacciform. The largest known species (*Echinorhynchus gigas*) infest the intestines of the hog. As regards the tegumentary and muscular system, it resembles the Nematoid worms, as well as in its diœcious generation; but its digestive system is very different, and somewhat obscurely developed. The mouth is a minute pore, situated on the extremity of the uncinated proboscis: it leads to two long cylindrical canals, which adhere to the muscular tunic, and are continued to the posterior extremity of the body, where they terminate in blind ends; and two shorter cylindrical cœca are continued backwards from near the mouth, and are freely suspended in the anterior part of the generative cavity: they are called *lemnisci*. The male organs consist of two fusiform testes, two varicose vasa deferentia, which unite together to terminate in a single vesicula seminalis, and a long intromittent organ provided with a bursa copulatrix, occupying the posterior extremity of the body, and having a special muscular apparatus for the retraction and extrusion of the contained organ. The male organs are suspended by a "mesorchium" from the base of the proboscis. The male echinorhynchus is generally half the size of the female. The generative organs in this sex consist of several ovaries, which are masses lying free in the general cavity of the body. The ovaries are long and wide cylindrical canals, extending from the proboscis, to which they are suspended by a mesometry, as far as the tail, and the common slender oviduct terminates at that extremity by a very minute pore. The ovum and germ-mass are developed as in the tænia, and the little embryo has four spines.

The *Acanthocephala* constitute a limited, yet natural order. The *Linguatulæ* (*Pentastoma* of Rudolphi) are the type of an analogous circumscribed groupe with a higher type of organization, which entitles them to rank in the class *Cœlelmintha*. This class includes all the cavitary intestinal worms of Cuvier, with the exception of the "Vers ridigules" or Epizoa, which are proved by their metamorphoses to belong to the siphonostomous Crustaceans.

The order *Nematoidea*, which forms the chief part of the class *Cœlelmintha*, must chiefly interest the medical practitioner, since it includes the principal internal parasites of the human subject: viz., *Trichina spiralis*, *Filaria medinensis*, *Filaria oculi*, *Filaria bronchialis*, *Trichocephalus dispar*, *Spiroptera hominis*, *Strongylus gigas*, *Ascaris lumbricoides*, and *Ascaris* or *Oxyurus vermicularis*. To the order *Nematoidea*, repeated examinations, since my first observation of the minute *Trichina spiralis*, induce me to refer that singular microscopic parasite. I have satisfied myself of the accuracy of Dr. Farre's and Dr. Henle's description of the distinct alimentary canal. In a specimen of *Trichina* now under the microscope, a loop of the intestine may be seen protruding through a rupture of the abdominal wall. The vermicule is always contained in a cyst. The occurrence of these cysts in vast numbers in the muscular tissue was made known in a very interesting case published by Mr. Hilton; and many others have since been recorded.

The cysts are very readily detected, by gently compressing a thin slice of the infected muscle between two pieces of glass, and applying a magnifying power of an inch focus. They are of an elliptical figure, with the extremities more or less attenuated, often unequally elongated, and always more opaque than the body or intermediate part of the cyst, which is, in general, sufficiently transparent to show that it contains a minute coiled up worm. The usual size of the cyst is 1-50th of an inch in the long diameter, and 1-100th of an inch across their middle part. The cysts are always arranged with their long axis parallel to the course of the muscular fibres, which probably results from their yielding to the pressure of the contained worm, and becoming elongated at the two points where the separation of the muscular fasciculi most readily takes place, and offers least resistance.

The innermost layer of the cyst can sometimes be detached entire, like a distinct cyst, from the outer portion, and its contour is generally well marked when seen by transmitted light. By cutting off the extremity of the cyst, which may be done with a cataract needle or fine knife, and gently pressing on the opposite extremity, the Trichina and the granular secretion with which it is surrounded, will escape; and it frequently starts out as soon as the cyst is opened.

When first extracted, the Trichina is usually disposed in two or two and a-half spiral coils; when straightened out, it measures 1-30th of an inch in length, and 1-700th of an inch in diameter, and now requires for its satisfactory examination a magnifying power of at least 200 linear admeasurement.

The worm is cylindrical and filiform, terminating obtusely at both extremities, which are of unequal sizes, tapering towards one end for about one-fourth part of its length, but continuing of uniform diameter from that point to the opposite extremity.

Until lately it was only at the larger extremity that I have been able to distinguish an indication of an orifice; and this is situated, in many specimens, in the centre of a transverse, bilabiate, linear mouth.

The anterior third of the alimentary canal is more even than the remaining part, which presents a sacculated appearance; in this respect, the *Trichina* resembles the newly excluded young of *Ascarides* and *Strongyli*. A small rounded cluster of granules of a darker or more opaque nature than the rest of the body is situated about one-fifth the length of the animal from the larger or anterior extremity, and extends about half-way across the body.

The worm has no organic connexion with the cyst; sometimes two *Trichinæ*, rarely three, occur in the same cyst.

The Medina or Guinea-worm (*Filaria medinensis*, Gmel.) is developed in the subcutaneous cellular texture, generally in the lower extremities. The Trichocephalus is characterised by an orbicular mouth, but differs from it in the capillary tenuity of the anterior part of the body, and in the form of the sheath or preputial covering of the male spiculum. The species in question, the *Trichocephalus dispar* Rud., is of small size, and the male is rather less than the female. It occurs most commonly in the cæcum and colon, more rarely in the small intestines. Occasionally it is found loose in the abdominal cavity, having perforated the coats of the intestine. The capillary portion of this species makes about two-thirds of its entire length; it is transversely striated, and contains a straight intestinal canal; the head is acute, with a small simple terminal mouth. The thick part of the body is spirally convoluted on the same plane, and exhibits more plainly the dilated intestine; it terminates in an obtuse anal extremity, from the inner side of which project the intromittent spiculum and its sheath.

The species called *Spiroptera hominis* was founded by Rudolphi on some small nematoid worms expelled, with many larger elongated bodies of a solid texture, and with granular corpuscles, like ova, from the urinary bladder of a woman, whose case has been described by Mr. Lawrence in the Medico-Chirurgical Transactions.

The most formidable, but, happily, the rarest of the Nematoid parasites of man, called *Strongylus gigas*, also infests the urinary system, but is developed in the kidney, where it has attained the length of three feet, with a diameter of half an inch; occasioning suppuration and destructive absorption of that important glandular organ.

The male *Strongylus gigas* is less than the female, and is slightly attenuated at both extremities. The head is obtuse, the mouth orbicular, and surrounded by six hemispherical papillæ; the body is slightly marked with circular striæ, and with two longitudinal impressions; the tail is incurved in the male, and terminated by a dilated pouch or *bursa*, from the base of which the single intromittent spiculum projects. In the female the caudal extremity is less attenuated and straighter, with the anus a little below the apex; the vulva is situated at a short distance from the anterior extremity.

The most common intestinal worms of the present order are the *Ascaris Lumbricoides*, or round gut-worm of the small intestines, and the *Ascaris* or *Oxyurus vermicularis*, a small worm noticed by Hippocrates under the name of ασκαρις, and claiming the attention of all physicians since his time, as one of the most troublesome parasites of children, and occasionally of adults; in both of whom it infests the larger intestines, especially the rectum. The size of the male *Ascaris vermicularis* is two or three lines, that of the female is five lines.

The generative organs of the Cœlelmintha are more simple than in androgynous *Sterelmintha*, or even than in the diœcious *Echinorhynchi*; yet they are adapted for the production of a surprising number of fertile ova. In the *Linguatula* the organs of both sexes, and especicily of the female, are more complex than in the *Nematoidea*: I shall, however, briefly notice them before proceeding to demonstrate the parts of generation in the human parasite.

The male *Linguatula*, as in other diœcious Entozoa, is much smaller than the female; the generative apparatus consists of two winding seminal tubes or testes, and a single vas deferens, which carries the semen from the testes by a very narrow tube, and afterwards grows wider. It communicates anteriorly with two capillary processes, or *penes*, which are connected together at their origin by a cordiform glandular body, representing a prostate or vesicula seminalis. The external orifices of the male apparatus, according to Miram, are two in number, and

are situated on the dorsal aspect of the body just behind the head. Diesing, however, describes the male *Pentastoma* as having only a single penis, which protrudes just behind or below the oral aperture.

The female generative organs of the *Linguatula tænioides* present a structure in some respects analogous to that of the *Distoma perlatum*. The ovary is a part distinct from the tubular oviduct, and is attached to the integument or parietes of the body, extending down the middle of the dorsal aspect. It consists of a thin stratum of minute granules, clustered in a ramified form to minute white tubes, which converge and ultimately unite to form two oviducts. These tubes proceed from the anterior extremity of the ovary, diverge, pass on each side of the alimentary canal, and unite beneath the origins of the nerves of the body, so as to surround the œsophagus and these nerves as in a loop. The single tube formed by the union of the two oviducts above described, descends, winding round the alimentary canal in numerous coils, and terminates at the anal extremity of the body. The single oviduct, besides receiving the ova from the two tubes, communicates at its commencement with two elongated pyriform sacs, which receive from the male, *in coitu*, the semen, and convey it into the oviduct, with the addition of a mucous opaque secretion.

The spermatozoa of the Linguatula present the ordinary capillary or linear figure, with a slightly enlarged cephalic end.

The male organs in the Nematoidea consist of a single and simple, slender, elongated tube or testis, under its most elementary form, a seminal reservoir, and an intromittent organ, consisting of a single or double spiculum and its prepuce, or bursa.

The spiculum is simple in the genus *Filaria*. According to the observations of Dr. Leblond, the male-duct in the *Filaria papillosa* terminates at the anterior extremity of the body, close to the mouth. From this aperture the slender duct, after a sligh contortion, is continued straight down the body to a dilated elongated sac, which represents the testis.

In the *Trichocephalus dispar* the testis, a single tortuous tubule, commences by a blind extremity near the rectum, passes forwards to a dilated semina receptacle at the anterior part of the thick portion of the body, from which it bends backwards nearly the whole length of the thick part, constricted at irregular intervals, and terminating in a narro straight canal, which is continued into the inverte pyramidal appendage, or bursa, attached to the hinder extremity of the body, from which the single spiculum projects.

In the *Strongylus gigas*, the bursa or sheath of the penis, terminates the posterior extremity of the body, and is a cutaneous production of a round, en larged, truncated form, with the spiculum projecting from its centre. In other species of *Strongylus*, as in the *Strong. inflexus*, the bursa penis i bifid, and the intromittent organ is double. In the *Strongylus armatus* the bursa is quadrifid. The *Spiroptera* are distinguished by the aliform membranous caudal appendage in the male.

In the *Ascaris lumbricoides* the penis projects from the anterior part of the anus in the form of a slender, conical, slightly curved process, at the extremity of which a minute pore may be observed with the aid of the microscope. The base of the penis communicates with a seminal reservoir, and is attached to several muscular fibres, destined for its retraction and protrusion; the reservoir is about an inch in length, and gradually enlarges as it advances forwards; the testis or seminal tube extends to the anterior third of the body, forming numerous convolutions or loops about the intestine; its attenuated cæcal extremity adheres closely to the dorsal wall of the abdomen. The total length of the seminal tube is about three feet. The essential part of the fluid consists of nucleated cells, which, in the *Ascaris lumbricoides*, present an irregular, triangular, sub-compressed form. In the *Strongylus* they are subspherical, with a clear nucleus, which developes itself into a short rigid appendage; the body being formed by the persistent membrane of the spermatoon; but undergo, according to Dr. Bagge, a marked change of form when introduced into water; they then become elongated, and assume a wedge-shape.

Reichert has given good figures of the spermatozoa of the *Strongylus auricularis* and *Ascaris acuminata* in "Müller's Archives" for 1837.

From the examples which have been adduced of different genera of the Nematoidea, we may perceive that although there are many varieties of structure in the copulative part of the male generative apparatus, the essential or secerning portion uniformly consists of a single tube. A like uniformity of structure does not obtain in the essential parts of the female organs: in a few instances the ovary is single, corresponding to the testis in the male, but in the greater number of the nematoid worms it consists of two filamentary tubes.

The *Strongylus gigas* is an example of the more simple structure above alluded to. The single ovary commences by an obtuse blind extremity close to the anal extremity of the body, and is firmly attached to the termination of the intestine; it passes first in a straight line towards the anterior extremity of the body, and, when arrived to within a short distance from the vulva, is again attached to the parietes of the body, and makes a sudden turn backwards; it then forms two long hoops about the middle of the body, and returns again forwards, suddenly dilating into an uterus, which is three inches in length, and from the anterior extremity of which a slender cylindrical tube or vagina, about an inch in length, is continued, which, after forming a small convolution, terminates in the vulva, at the distance of two inches from the anterior extremity of the body. In the *Trichocephalus dispar* the ovarium and uterus are continuations of one and the same single tube, which by its folds more or less conceals the intestines; the vulva is situated nearly at the junction of the filamentous with the thick part of the body.

The theory which had suggested itself to Rudolphi, of the correlation of a simple oviduct in the female with the spiculum simplex of the male, and of the double oviduct with a spiculum duplex, is disproved by the circumstance of the uteri and oviducts being double in the *Strongylus armatus* and in the *Ascaris lumbricoides* in the males, of which the penis is a single spiculum. In the *Strongylus inflexus*, which infests the bronchial tubes and pulmonary vessels of the porpesse, each of the two female tubular organ may be divided into ovary, oviduct, and uterus; th ovary is one inch in length, commences by a poin opposite the middle of the body, and, after slightly enlarging, abruptly contracts into a capillary duc about two lines in length, which may be termed the oviduct or Fallopian tube, and this opens into a dilated moniliform uterus three inches in length. Both tubes are remarkably short, presenting none of the convolutions characteristic of the oviducts o *Ascaris* and *Filaria*, but extend in a straight line (with the exception of the short-twisted capillary communication between the ovaria and uteri) to the vulva, which forms a slight projection below the curved anal extremity of the body.

The reason of this situation of the vulva seems to be the fixed condition of the head of this species of *Strongylus*. In both sexes, it is commonly imbedded so tightly in a condensed portion of the periphery of the lung, as to be with difficulty extracted; the anal extremity, on the contrary, hangs freely in the larger branches of the bronchi, where the coitus, in consequence of the above disposition of the female organs, may readily take place.

In the *Strongylus armatus*, the two oviducts terminate in a single dilated uterus, and the vulva is situated at the anterior extremity of the body, close to the mouth.

I find a similar situation of the vulva in a species of *Filaria*, about thirty inches in length, which infests the abdominal cavity of the *Rhea*, or American ostrich. The single portion of the genital tube continued from the vulva, is one inch and a quarter in length; it then divides, and the two oviducts, after forming several interlaced convolutions in the middle third of the body, separate; one extends to the anal, the other to the oral extremities of the body, where the capillary portions of the oviducts respectively commence.

In the *Ascaris vermicularis*, the vulva is situated about one fourth of the length of the body from the head.

In the *Ascaris lumbricoides* the female organs consist of a vulva, a vagina, and a uterus, which divides into two long tortuous oviducts, gradually diminishing to capillary tubes, which may be regarded as the ovaria. All these parts are remarkable in the recent animal for their extreme whiteness. The vulva is situated on the ventral surface of the body, at the junction of the anterior and middle thirds of the body, which is generally marked at that part by a slight constriction. The *vagina* is a slightly wavy canal five or six lines in length, which passes beneath the intestine, and dilates into the uterus. The division of this part soon takes place, and the cornua extend with an irregularly wavy course to near the posterior extremity of the body, gradually diminishing in size; they are then reflected forwards, and form numerous, and apparently inextricable coils about the two posterior thirds of the intestine.

In the *Nematoidea* the male individual is always smaller, and sometimes disproportionately so, than the female. At the season of reproduction the anal extremity of the male is attached to the vulva of the female, by the intromission of the single or double spiculum, and the adhesion of the surrounding tumid labia; and, as the vulva of the female is generally situated at a distance from either extremity of her body, the male has the appearance of a branch or young individual sent off by gemmation, but attached at an acute angle to the body of the female.

The evidence of the fertility of the compound cestoid Entozoa, was sufficiently marvellous: that which I have now to adduce, from a calculation made by Dr. Eschricht, in reference to the *Ascaris lumbricoides*, the commonest intestinal parasite of the human species, is scarcely less surprising. The ova are arranged in the ovarian and uterine tubes like the flowers of the plantago, around a central stem or rachis. There are fifty in each circle, that is to say, you might count fifty ova in every transverse section of the tube. Now the thickness of each ovum is 1·500th of a line, so that in the length of one line there are 500 wreaths of fifty eggs each, or 25,000 eggs! The length of each division or horn of the uterus is 16 feet, or 2,304 lines, which for the two horns gives a length of 4,608 lines. The eggs, however, gradually increase in size so as to attain the thickness of 1·60th of a line; we, therefore, have at the lower end of the horn 60 wreaths of ova, or 3,000 ova in the extent of one line. The average number through the whole of the extraordinary extent of the tube may be taken at 14,000 ova in each line, which gives *sixty-four millions* of ova in the mature female *Ascaris lumbricoides!*

The embryo is not developed within the body in this species; the ova may be discharged by millions, and most of them must, in large cities, be carried into streams of water. An extremely small proportion is ever likely to be again introduced into the alimentary canal of that species of animal which can afford it an appropriate habitat. The remainder o he germs doubtless serve as food to numerous mi nute inhabitants of the water; and the prolific Entozoa may thus serve these little creatures in the same relation as the fruitful *Cerealia* in the vegetable kingdom stand to higher animals, and minister less o the perpetuation of their own species than to the sustenance of man.

The oviparous Entozoa present, perhaps, the most favourable subjects for studying with the requisite attention the successive steps of that process by which the germinal vesicle and yolk become finally ransmuted into the young and active worm.

I described and showed diagrams of some of these hanges in the ova of the *Strongylus inflexus* in my ectures on Generation in 1840: and the subject has been carefully prosecuted by Professors Siebold and Kolliker, from observations made upon the ova of he *Strongylus auricularis* and the *Ascaris acuminata*, both of them viviparous species of *Nematoidea*. Siebold finds at the delicate blind extremities of the varia the germinal vesicles, which are at first few and scattered, but become more closely aggregated as

they descend along the tube; whilst the ovum is progressively enlarged, by the multiplication of the opaque granules of the germ-yolk around the essential vesicle: then the delicate, smooth, and polished membrana vitelli is acquired. Towards the fundus the germinal vesicle becomes obscured by the aggregation of the vitelline granules around it; and after impregnation, the vesicle bursts and pours its contents over those granules. At all events, it ceases to be visible as a clear central cell. The ovum is now apparently occupied by the opaque and minute vitelline granules, which become aggregated or condensed, so as to leave a clear narrow inter-space between the vitelline mass and the smooth outer membrane. The yolk would seem to have been affected by a general spasm, or by some attractive principle added to it, which draws all its parts towards a centre. In the centre of this mass, in fact, a clear nucleus presents itself, which is more minute than the primitive germinal vesicle.

In the ova of Nematoidea, many of which are viviparous, the embryo is developed by two different modifications of the diffusive process by multiplication of germ cells from the primary central one: in the one process the successive division or propagation of the germ-cells goes on independently of the yolk, which is absorbed, assimilated, and converted into the matter of such germ-cells. In the other the attractive force of the germ nuclei seems to be greater: and the whole yolk is divided by the first bipartition of the original germ cell, and is assembled around these divisions, as they successively arise. So that the process is described as a successive division of the yolk. The subdivisions of the yolk decrease in size as they augment in number, and the vitelline matter is at length, by the re-iterated processes of development, liquefaction, and assimilation of nucleated cells, sufficiently subdivided and refined, and each subdivision or cell, by the concomitant partition of the clear spermatic nucleus or hyaline, has become adequately vitalised or fertilised, so as to be capable of its further metamorphosis into the appropriate tissue of the embryo worm.

So far the process is essentially the same with that in all other ova up to the mammal, and without doubt in man. The materials for the future being are accumulated in a duly subdivided state, like the bricks or hewn stones collected for the builder to operate on, under the guidance of the architect.

The minutely subdivided mass is now observed to present a lateral indentation; and, as this deepens, it assumes the form of a short thick cylinder, bent upon itself. By the lengthening and attenuation of the cylindrical mass, the bend assumes the character of a coil; and now something like an integument, containing a fine granular tissue, may be discerned. Further elongation, attenuation, more complicated coiling, and a greater clearness of the tissues of the embryo worm make its character plainly manifest, and the alimentary canal can be distinguished from the integument, both having been formed by the subdivision and metamorphosis of the primitive cells. The young animal thus built up, now begins to move briskly within the egg-membrane, assimilates the remaining vitelline mass, and is soon strong enough to burst its prison, and commence its independent career of existence.

The Entozoa are hardly less remarkable for their tenacity of life and revival from a state of apparent death than the Infusoria, and the knowledge of this property is indispensable to a fair estimation of the chances of the re-introduction of the ova of Entozoa into the bodies of living animals. In no class of animals has the origin from equivocal generation been more strenuously contended for than in regard to the Entozoa. The great entozoologists Rudolphi and Bremser were advocates of this doctrine; and Bremser did not scruple to charge the Berlin Professor with a physiological heresy, when he ventured to account for the high organisation of certain Ligulæ infesting piscivorous birds, by the hypothesis that they had been developed from the lower grade which they previously exhibited in the cold-blooded fishes swallowed by the birds, through the stimulus of the heat and nutritious secretions of the more comfortable intestinal domicile to which they had thus been accidentally introduced.

The advocates for the equivocal generation of the Entozoa adduce the fact, that herbivorous mammals are not less subject to Entozoa than carnivorous ones; and how, they inquire, could the ova of Entozoa be preserved in the water that serves as the drink of such animals? Or how, having become dried in the air, could such ova afterwards resume the requisite vitality for embryonic development? We may admit that the ova of Entozoa could not, like the much more minute ova of Polygastria, remain suspended in the atmosphere, since they are specifically heavier than water; but, with respect to their powers of retaining dormant life, we have sufficient analogical evidence to reject the assumption that they soon fall into decomposition.

Mr. Bauer has recorded many experiments on the *Vibrio tritici*, or parasite of wheat, a minute worm possessing the essential organisation of the Nematoidea, not less remarkable in their results than those of Spallanzani on the Rotifer; the Vibriones were dried, and when re-moistened, after the lapse of four to seven years, they resumed their living and active state. Dr. Blainville states, that the *Filaria papillosa* revives from a similar state of torpidity produced by desiccation.

It has been proved that the mature Entozoa will resist the effects of destructive agents, as extremes of heat and cold, to a degree beyond the powers of endurance of the *Rotifera*, and which would be truly surprising were not the simplicity of the organisation of the Entozoa taken into account. A Nematoid worm has been seen to exhibit strong contortions—evident vital motions—after having been subjected above an hour to the temperature of boiling water, with a codfish which it infested; and, on the other hand, Rudolphi relates that the Entozoa of the genus *Capsularia*, which infests the herrings that are annually sent to Berlin, hard frozen and packed in ice, do, when thawed, manifest unequivocal signs of restored vitality. If, then, the fully developed and mature entozoa can resist such powerful extraneous causes of destruction, how much more must the ova possess the power of enduring such without losing their latent life.

Burdach, who has summed up the evidence at great length in favour of the equivocal generation of the Entozoa, adduces the example of the oviparous species as involving the limitation of the offspring to the lifetime of the individual which they themselves infest; but on this point Dr. Eschricht has well observed that the transmission of the living young of the *Strongylus inflexus* from one porpoise to another is readily explicable. This species of *Strongylus* lives in the bronchial tubes, with its head immersed in the substance of the lungs, and its tail extended into the larger branches of the trachea. The living young must naturally escape into the mouth, and, as porpoises are gregarious, the young worms would, by a short passage through the water, readily be introduced into the mouth of another porpoise, and so reach the trachea.

The young of most Entozoa are subject to metamorphoses. I have already alluded to those of the Cestoidea in which the head in all the species seems first to be provided with six hooks. Those of the Trematoda are the most astonishing, and the locomotive condition of the earlier phases of the *Distomata* evidently relate to the securing their entry into the animal's body, which they are destined to infest. Dr. Siebold has noticed the difference of form between the young of the Echinorhynchi and their viviparous parents; and this difference was so great in regard to the viviparous *Filaria medinensis*, that Dr. Jacobson was led to suppose its multitudinous progeny to be parasites of the parasite. Dr. Eschricht has observed, that the flesh of fishes in summer is often studded with small worms, which, in one instance, he ascertained to be *Echinorhynchi*; and he suggests whether it may not be the breeding-place of such species, and whether the *Trichina spiralis* may not belong to the same category. But how these embryos (if they be embryos) are diffused through the intermuscular cellular tissue, can only be known after long and laborious investigations; and nothing is more true than that a particular inquiry will be required for each particular species.

LECTURES ON FEVER.

BEING AN ATTEMPT TO DEVELOPE MORE DEFINITE VIEWS OF ITS NATURE AND TREATMENT, BY THE CONSIDERATION OF THE PHENOMENA, AS OBSERVED IN THE PRACTICE OF MEDICINE AND SURGERY; BEING IN CONTINUATION OF "MEDICINE AND SURGERY ONE INDUCTIVE SCIENCE."

By GEO. MACILWAIN, F.R.C.S., Author of the above-mentioned Work, "Unity of the Body," "Tumors," &c., &c., &c.

(Concluded from Vol. XIX., page 601.)

Lecture X.

Of Stimulants.—Of Medicine generally —Of the Prevention of Fever.—Of Contagion and Infection.—A Word on Quarantine.—Of Sanitary Measures: Drainage and Sewerage, &c., only a Class of Prophylactics.—Facilities must be afforded for air, exercise, amusements, and the improved habits of the people.—Ignorance the great difficulty.—Public Instruction.—Remarks on Cholera.

The next subject on which it was proposed to state the bearing of the views which I have endeavoured to set forth, was the prevention of fever; but we shall do that more conveniently presently, in connexion with the remarks on sanitary measures. In the mean time, we must advert briefly to one or two of the more difficult and exceptional points of treatment, which want of space or opportunity has prevented us from doing hitherto. The time, the manner, and the circumstances which may justify the employment of what are called stimulants, are points of considerable importance. By a practical man, it is easily enough determined by the bed-side, but very difficult to point it out on paper.

The circumstances under which stimulants appear to me justifiable in fever, may be resolved into three: First, where the force, *ab extra*, is of unusual intensity, and productive of sudden and great depression, as happens in some cases of peculiar forms of miasma; and in surgery, from unusually severe concussions, or other injury to important parts; as temporary measures. Secondly, during the treatment in fevers of a low type; that is to say, with subdued power, in which aromatics seem to aid the operation of medicine addressed to particular organs, in inducing the premier pas in secretion. And, thirdly, when the very efforts of various organs to which the subsidence of the fever, properly so called, may have been owing, have exhausted the powers of the economy. All these conditions require vigilance and discrimination; first, that where they are really present, stimulants may be commenced in time; and, secondly, that they may not be given unnecessarily, and in cases where the real thing required may be the excitement of a particular function. So far as I have seen, when the usual symptoms of debility set in,—as darkening tongue, small quick pulse, wandering, and so on,—even if the tongue be moist, though it may, indeed, not always be safe to give any stimulant in the decided sense of the term, it is often very safe and very proper to give it as if asking the question whether it be admissible; for, if it be so, it will be almost certainly advantageous. If stimulants be necessary, their administration, with *extreme caution in time*, will, I believe, often prevent the necessity of that less measured use of them which so often winds up the typhoid termination of fever in defeat. When organs indeed are free from structural disease, much may be done by stimulants, even in very desperate circumstances. When they are changed in structure, stimulants only hurry on the mischief. Cases, indeed, apparently of an exceptional character, occur, and I recollect one where a patient recovered under the use of stimuli, combined, it is true, with a successful excitation of the supposed primarily affected organ, (the liver,) whose body I had the opportunity of examining a year afterwards, and in whom changes of structure in the organ were found, a considerable portion of which, I think, could not have been of recent occurrence. The choice of stimulants must of course depend on circumstances. A little jelly, slightly charged with wine, is a convenient form for

(so to speak) asking the question. Aromatics, when they are sufficient, are perhaps better than alcohol in any form. In many cases, and in desperate circumstances, alcohol, in some form or other, may be our only resource; and I once, I believe, got a very fine young man through a fever, in which he was delirious and apparently sinking for three weeks, by wine administered wholly by injection; but in which, it is pertinent to our argument to observe, was always productive of relief co-incidently only with secretion apparently from the liver. On the whole, stimulants can hardly be guarded by too much caution. Many cases in surgery which are accompanied by fever, and which were formerly treated by free use of stimulants, either at their commencement or termination, are now constantly and most successfully managed without either. As we have departed from the mere symptomatology, we have learned better things, and much of that sudden depression which we were accustomed to stimulate, and that excitement which we used to bleed; now (unless it occur in some threatening intensity) we merely endeavour to rouse or moderate, by temporary means; and recognise in these conditions only the ordinary phases of that process by which, under trying circumstances, the economy disposes of injurious influences. I believe the treatment of fever, which usually falls under the care of physicians, has been equally improved in this respect. I need scarcely say, that, in all cases, the choice of the article and the dose, and the time of giving stimulants, will be influenced by the previous habits of the patients, whence, indeed, as I contend, the elements of determining the special treatment will always be directly or indirectly deducible.

MEDICINE.

I have no opportunity of going into the details of what particular medicines we should employ to act on the organ we desire to influence, their doses, combinations, &c. My own practice, in regard to medicine, is generally simple and definite. I prescribe an article, and in a dose that I think can be depended on; and if there is a disposition in any other organ to be affected by it, than that on which I intend it to act, I generally increase the dose, and combine it with a narcotic. I am not fond of indefinitely increasing the quantity of that which has been given already in a full dose without effect, but prefer changing the excitant for some other; but, in the adjustment of the dose, of course, the previous habits of the patient, whether natural or acquired, in regard to medicine of any particular kind, will be of great consequence.

I have, however, said so much in connexion with my remarks on tumors with relation to medicine in the treatment of organs, that I can hardly enlarge on the subject without repetition. Steadiness is the great thing in practice, whether in fever or any other case. A prompt circumspection should establish all the external favourable conditions, as quiet, temperature, ventilation, &c.; then, whatever medicine is given should be prescribed with definite object, in sufficient dose, and its effect watched and reasonably waited for; all that fidgetty desire to be continually doing *something* may please the ignorant, but it is as unsafe as it *is injudicious.*

In proceeding with the points yet remaining to be considered, and as introducing the subject,—the Prevention of Fever,—I would observe, that to some it may have appeared that we have not laid so much stress on the influence exerted by atmospheric agency in the causation of fever as its importance demands. This has not been my intention. I contend that, either atmospheric changes, or additions, or vitiated conditions of the body, proceeding from other causes, may *each* generate the elements of fever; but I have been desirous chiefly to impress the importance of that element represented by the state of the body, because it is that with which we have to deal, that which is most within our power, and, as medical men, most falling within our professional duties; and in regard to which practice seems most inert, indefinite, or defective. At present, we know comparatively little which is positive concerning the atmosphere in relation to the production of epidemics; but it seems probable that there are two conditions which render it insalubrious. The one, the positive addition of some new principle, or agent, such as many deleterious gases with which we are familiar; the other, an altered condition of the polarities, or molecular attraction, of the normal constituents of the atmosphere, such as would be expressed by saying there was a difference in its electrical condition.

It is quite certain, that there is a state of body, and a state of atmosphere, which are each capable of producing fever; that as ordinarily, in epidemics, they both contribute, so their disjunction will *generally* prevent fever; but that, as a certain degree of intensity in either may generate the force usually represented by the other, so if we would prevent fever we must secure immunity from both. This would be, according to our view, the actual conclusion from the premises; we shall see that it is equally the result of practical observation.

The facts are clear and indisputable, and can by no ingenuity be wrested to other than their obvious and direct conclusions. It is indisputable, that pure, good air, perfect ventilation, efficient drainage and sewerage, will indefinitely *diminish* the occurrence and *fatality* of fever, no matter whether there be an epidemic constitution of atmosphere or not. It is also indisputable, that a similar indefinite *diminution* of the occurrence and fatality of fever will also reward the observance of cleanliness and temperance, abstinence from the *abuse* of alcohol, in whatever shape, especially if sufficient food and exercise be added. But we have no evidence whatever that the observance of either one class of prophylactics will *absolutely* prevent fever. To obtain the maximum of good, we must observe both. Intemperance, and other vices, with sloth, dirt, &c., will produce a *certain number of* cases of fever, in spite of all the drainage, sewerage, and pure air in the world; and, on the contrary, all the exercise, cleanliness, and temperance will not protect *every one* from fever, who is obliged to reside in a foul atmosphere. The bearing of these facts on sanitary measures we shall presently consider; but it is necessary to say a few words on contagion, or infection,—in fact, on the communication of disease from one individual to another. In examining this question, as well as that of prevention of fever, if people would *only* have attended to the *facts*, much, as it appears to me, of the controversy might have been avoided. It is impossible to deny, that fever has been communicated from one individual to another, and one instance is as good as a million; and, on the other hand, it is equally certain that, in many instances, fevers, of various kinds, have *not* been communicated to individuals who have been exposed, in every conceivable way, to the emanations from the fevered persons.

In these facts there is nothing wonderful, or really discrepant; they each imply, that the state of the body is ordinarily a necessary *element* in the matter; but a too partial view appears to me to have been taken of the whole subject. We should begin by considering the simple fact, that the emanations of all bodies, healthy or diseased, are unwholesome to other bodies; whatever is exhaled from an organized being is not exhaled, or rejected, as an accidental result; but as necessary to the health of the individual. Even the odours so grateful to us, would be insalubrious, or poisonous, to the flowers which exhale them, were they restricted to such an atmosphere. The security which we enjoy under such circumstances results from some of the most beautiful provisions in nature; of these I need only point to the high temperature at which matters are usually exhaled from animal bodies,—the *carrier* power thus generated in the air by the currents consequent thereon,—the law of mutual repulsion, by which gaseous forms of matter become indefinitely diffused; the disagreeable odours, by which we are warned of the presence of respirable gases that are unwholesome; the irrespirable nature of others not odorous; the instinct observed in many animals with regard to their excrement, and so forth; and, lastly, the conditions consequent on the converse of all this experimentally illustrated when we interfere with such laws by artificial accumulations, or confinement of the matters in question.

But now comes another link in the chain of facts not sufficiently noticed, though surely well enough known, and of which my experience in the outvisiting Institutions of London has furnished abundant illustration; viz., that it does not by any means necessarily follow, that an atmosphere, rendered unhealthy by the diseased, shall any more produce the same *disease* in different persons, than in those who are contaminated by the exhalations of bodies as yet not labouring under disease. What I mean, for example, is, that hot and crowded rooms will sometimes produce indisposition, in different people, of different kinds; and an atmosphere, whether that of a fevered person, or air of foul drains, which shall be followed by fever in one person, may be followed in another by another form of indisposition; or, as we familiarly learn, by no indisposition at all. The varying results of the air of dissecting rooms are one of the many classes of facts in illustration of the foregoing.

So it is not necessary that the atmosphere of *fever* should necessarily produce *fever* in a person who may, nevertheless, be more or less injured by it. I have known cases where several individuals have been affected by the same injurious influence, and yet the *name* of the disease has been very different in all. In point of fact, a fever may be contagious, however paradoxical it may seem, which in the person affected may not produce the same form of disturbance in the economy. I know of no one source of malaria into which we can examine with anything like precision, in which we do not observe the very same class of facts. We always find evidences of insalubrity in all, but never in *any one form in all*, and this is only typical of what might be said in different degrees of the results of every injurious influence whatever. Now, all these considerations lead us again and again to the two forces which we have represented as the *ordinary* elements of fever, and to the possibility of either in extreme intensity generating the force usually represented by the other, and shows, I think, the fallacy of trying to argue for contagion *generally*, because examples of communication occur, or against contagion *generally*, because it may be absent in particular instances. It gives the notion of some abstraction which has no existence, the real thing being the *resultant* of different forces. In fact, it is to my mind very much the story of the cameleon over again — all are right and all are wrong. All fevers, under certain circumstances, are contagious, and it might, with equal truth, be affirmed, that under other circumstances no fever is so. The bearing, however, of this on quarantine, without absolutely proving that it can never do any good, places its claims as a preventive of fever very low in the scale of prophylactic measures. Still I would avoid the tendency which there appears to be to consider right the reverse of wrong, and to think there is no remedy for the faults and fallacies of the Quarantine Laws but a total abolition of the powers which they have conferred.

On the contrary, I think a power of prohibiting intercourse, under particular circumstances, should still exist and that, whilst the fallacy and commercial evils of quarantine were got rid of, we should not hastily throw aside a power which might, under special circumstances, be desirable. It would be no consolation if, on some occasion, *a disease*, were carried into a crowded, *unhealthy, seafaring neighbourhood*, that the ship or crew had no power of producing a *sweeping epidemic*. Sanitary regulations require comprehensive and sensible applications of *all* means of security; not necessarily the total abandonment, or exclusive adoption of *any*. I cannot leave the subject of contagion, and preventive measures, without paying a parting tribute to Dr. Hancock, whose book appears to me to have well nigh exhausted the arguments on the subject in relation to the plague; and as *mutatis mutandis* the same facts are applicable to other epidemics —the subject generally. But whilst I would concede, most respectfully, both to the contagionist and non-contagionist, the freest exercise of opinion on matters which really are in abeyance, I must protest against the right that any man has to hold an opinion that is logically untenable, until we have discovered some

fallacy in the science of reasoning, as yet unknown. For very much of the reasoning on this subject might be easily disposed of as being logically, that is, in fact, demonstrably false.

Now, the bearing of all this on the sanitary movements of Governments is highly practical. A very little consideration unfolds to us views at once simple and comprehensive; but it quickly exposes to us how much larger a thing the health of nations is than is likely to be embraced by those who look exclusively to any one part of this great question. It will be seen that our argument lays most stress on that element afforded by the condition of the body; because it is here that the special treatment of fever, it is here that, in the professional sense of the term, the Medical man is most required,—here where he is most needed,—here where he has most power. Had he the power, he would establish universal good drainage and sewerage, plentiful supply of light and air. He would realise the inestimable value of temperance, exercise, and a general obedience to the physical laws—he would show how often these are sacrificed to the desire of wealth, to an extent useless or mischievous, or to pursuits of equally measured or doubtful value; he would impress the sanitary value as well as moral excellence of well-regulated passions, of kind and benevolent feelings, and the inseparable connexion and harmony of those moral and physical laws identical in their source, alike beneficial in all their consequences, and alike necessary to the attainment of the maximum of health and longevity, as they are to rational pleasure or real happiness.

The Profession, as individuals, can do very little in initiating anything that is comprehensive and national; and the Government must have seen what may be expected from our corporate bodies. Strangely enough, however, they have in various matters consulted those in regard to the correction of evils who are most interested in their continuance. In sanitary matters they have gone rather differently to work, but still, as it appears to me, in a manner that does not convey an impression of a very comprehensive perceptivity as to the number and nature of the agenda; and which, therefore, suggests, that the advance of sanitary measures will be marked by delay and difficulty. It is essential that the true sources of disease should be fully understood, and not *one source* made too much the subject of legislation. Whatever good is thus obtained, being necessarily incomplete, will disappoint the too confiding, and apparently verify the predictions of the ignorant and disaffected. 2. The *knowledge* of the subject should be diffused by public instruction. These conditions premised, the establishment of efficient drainage, sewerage, ventilation, supplies of water, abolition of cess-pools, &c., would do some good, and then would come the *other no less urgent division* of the subject, the facilitating and elevating the amusements, and improving the habits of the people, which so many things now tend to degrade and demoralize. Governments cannot legislate people out of bad habits, in a direct sense; but they can place them under circumstances more or less favourable to the development of good ones.

They cannot legislate a man through four or five miles of brick and mortar into the pure air and the amusements of the country, but they can provide spaces nearer home. Restricted to a world of streets, if a man has a spare hour from labour, a breath of pure air and some amusement is the best prophylactic against disease of mind or body. If he have not this, or at least space for amusement of more social and rational sort, and is either excluded by education or habit from literary pleasures, he will become an animal, and a very bad sort of animal too; and, whether he is a Peer or a Peasant, he will be in principle the same: his pleasures will be animal. There may be more grossness in the one case than in the other; but, whether it be gin and beer, claret and Burgundy, pitch-and-toss or hazard, snuff or tobacco,—whatever the excitement may be, alimentary or sexual, the principles at work will be essentially the same. Now, the foregoing is too much the condition of the masses in large towns. It is when the intellect has no point of usefulness to which to direct its powers, when the exhilarating and innocent influences of air and exercise are withheld,—when there is no motive or subject for the exercise of social or rational pleasure,—when he *appears* idle because every employment that is pure and recreative is withheld, that Man becomes an animal, who, whether gregarious or solitary, is active only in sensuality, and reasoning only so far as reason can sharpen or multiply the gratification of animal propensities. Meanwhile, the facilities—nay, temptations—to vicious and hurtful pleasures are as numerous as those to rational and sanitary are scanty; whilst the habitations are ill-ventilated and confined, that whited sepulchre the gin shop is open, airy, and attractive. The *immediate* excitement of alcohol is as agreeable and alluring as its *future* effects are demoralizing and destructive. Its use, and almost by an invariable consequence its abuse, becomes universal. Hosts of capitalists, according to the amounts of their respective investments, live in the style of princes, and noblemen, or wealthy yeomen, on the profits of gin and beer; and the Government,—unconsciously as we would desire to think, but not less really,—trading on demands built on the moral and physical deterioration of the people, has its provident care lulled or obscured, and its conscience seared, in contemplating the consequent additions to the revenue. Well, then, a Government cannot prohibit people from the abuse of alcohol, but they can say, You may go and refresh yourselves by air and exercise, or by games, in spaces prepared for the purpose; and this is what I would insist on as necessary for sanitary, as well as higher, purposes —that we must attend to the amusements of the people. In the present state of the people, and the amount of population in these realms, it is not only a duty of a paternal Government, but one which a very few years will show cannot be safely compromised or neglected. Private individuals can do but little; and, even where time has been stolen from other pressing avocations, the difficulties of interesting those whose especial duty it is to attend to such matters, may and do, (without the sanction of Government,) become insuperable. I have myself spent a good deal of time in a suburban neighbourhood on this subject, where there are unusual facilities for the institution of amusement, and painful evidences of the necessity of it; but, although I offered to do it at my own expense, I failed to excite the smallest sympathy in the nobleman who is Lord of the Manor, and otherwise so placed that it would be fruitless to attempt anything of the kind without his sanction and assistance. The estimable nobleman (Lord Carlisle) who is now interesting himself on sanitary matters, will not only find, that provisions for improving the habits of the people will form a very necessary part in any attempt at efficient sanitary measures, but that the diffusion of practical information will also be essential.

There is no one source of difficulty so great, nothing which so indefinitely impedes the progress of useful legislation, as ignorance; and it is in vain to conceal that the most dense ignorance exists in regard to the nature and extent of the requisitions of an efficient sanitary code. I have had thirty years (twenty having been spent in active duties amongst the worst neighbourhoods, St. Luke's, Clerkenwell, St. Andrew's, Holborn, and Islington) abundant opportunities of observing the lower classes, and I have not been without ample means of comparing their information with that possessed by other classes of society.

The broad stratum of society represented by the middle classes is as usual the best informed, or I should say, perhaps, the least ignorant; but the absence of knowledge on such subjects is great and universal, and unquestionably greatest, amongst the very highest and very lowest classes.

Do not let it be supposed that I am unaware of the many splendid exceptions in both,—but I speak of the rule; and I would appeal to any medical man of practical experience for confirmation of the foregoing representations.

Now, as regards this ignorance in the masses, it is not only, as it seems to me, the duty, but the policy of the Government to enlighten it. Nothing would render legislation more facile. Nothing but dense ignorance can oppose the momentary inconvenience of individuals, ignorantly and grandiloquently styled an invasion of their rights, to measures calculated to improve the health of a Nation.

The facts on which the justice and necessity of a prompt summary jurisdiction in sanitary matters rest are established in numbers almost repelling perusal by their very accumulation.

With the machinery afforded by a willing and generous Medical Profession, diffusion of information would be easy. Competent persons might easily be found in every district, who might undertake, at seasonable times, and at reasonable remuneration, the task of public instruction.

This would somewhat increase the too scanty provision, and immeasurably the usefulness, of our Profession. The times, subjects, and, if necessary, the mode or order in which they were treated, might be dictated by a tribunal appointed for that purpose.

Besides the *reservation of spaces* being part of an efficient Building Act, special provisions should be made for particular trades which are more or less unhealthy; or without such special provisions destructive.

Sanitary measures being placed on a broad and comprehensive basis, then should come, as an appropriate superstructure, the regulation of the Medical Profession. The principles might be few and simple. The public should be supplied with men whose title to practice should contain the proof that they had been examined as to their qualification; and for the security of the public, not less than in justice to the Profession, all persons not so qualified should be prevented from practising. No public officer of any institution should be allowed who had not attained his post by the result of successful scientific competition. The highest functionaries in professional distinction, viz., those which regulated the examinations, conferred degrees, and so on, should have ceased to be competitors in practice, and should be liberally paid out of the public purse. In all preliminary investigations, care should be taken not to consult those, still less *those only* who were directly or indirectly interested in the maintenance of existing evils. The subject is one of great importance to the public and the Profession; but whilst there are all around us so many evidences of deficient information on the part of the public, and so much evidence as to how little the Government appear to know of the real position of many of the men on whose sentiments they appear to have relied, for myself I see little hope for the public or the Profession. To return to the application of our views; if correct, they must have important bearings on the treatment of epidemics generally, and on that with which we are now visited, viz., cholera. They would in fact recognise it as one form of injurious influence, on which application of the general principles would be modified only by the unusually depressing force *ab extra*. This they would endeavour to combat by restraining excessive actions in affected organs, powerfully exciting the skin, and by the administration of stimulants, with a boldness and promptitude modified by the immediate pressure, and with a *prudent regard* to the degree of excitement which might follow the immediate recovery from the depressing influence; after this, the indisposition, whether febrile or other, would be treated in different cases by equalising functions which might appear out of balance, on the principles before suggested, so that in different individuals different indications would present themselves. The diarrhœa would, on our principles, stand in different relations in different cases; ordinarily, it would probably fall under the category of compensating actions in relation to which, practically, the skin would be most commonly the primary organ, or the one next in approximation thereto. Not having seen anything of cholera, I am not presuming to sketch its treatment, I am only saying what the general nature of it would be in harmony with our views of the laws which regulate the resistance to injurious influences on the body.

So far as I have observed, there is nothing inconsistent in this with the little which has yet been found successful. I had intended to set forth the distinction, so far as it can be so called, which exists between fever and inflammation, but I must dismiss, for want of space, that like many other of the foregoing important subjects, with one or two remarks. It will then be readily seen, from all that has been said, that fever and inflammation differ merely in that they are different phases of interference with the law by which the body deals with injurious influences; and, that, according to the nature or extent of the injury, or the number, degree, or kind of interfering influences, the two may be entirely separate, or variously combined. In the chain of phenomena thus formed, of which fever would be one terminal link, the case of what is called healthy inflammation without fever, would represent the other, the latter being, however, as a *terminal* link essentially artificial, because disconnected from those, represented by injurious or disturbing influences, which are *disposed of by secretion*. I have thus endeavoured to sketch, and to sketch only what I believe to be true views of the important subject of fever, so far as one can do so in continuing a work of which it forms only one article.

It is some consolation to me, in reflecting on the want of opportunity of fully analyzing so large a subject so as to carry every proposition, as to its nature, to a real demonstration; that I hope to have so far succeeded in unfolding my views, as to render the examination of their validity easy, and capable of being tested by any bodymoderately informed, by the bedside. That views which allege the so-called mysterious disturbance to be merely another phase of that law with which we are already in part familiar—that fever is susceptible of being so analysed as that the real nature and dependence of it can be shown to result from definite and intelligible conditions of the economy—that they must necessarily simplify our practice, and give it what I may call a clear and intelligible object, and confer on it a clear and explicable polarity, if I may so speak, instead of a vague routine of mere ministry to symptoms—that all this should be at once admitted, is neither to be expected or scarcely to be desired. There must be, however correct the views may be, at first, wholesome distrust, doubt, difficulty. The minds of men are already occupied by numerous assumptions, which must be got rid of. We have a number of imaginary entities, deduced from hypothetical, or what is worse, partial views, represented by the terms, idiopathic, symptomatic, nervous; which not only hang like dense clouds before the light of truth, but greatly impede even the examination of it. The instructions of Lord Bacon, in my opinion, can alone help us through these obstacles; and I do not believe that we can use the mind for the discovery of truth after any other manner which is so certain of a successful issue. At present, the diffusion of knowledge is curiously enough most restricted, on subjects in which mankind are most interested. Necessity having forced on them the practice of them as *arts*, they have neglected them almost entirely as a *science*—I mean agriculture and physiology. In such conditions of society, epidemics must always be fearful visitations, yet nothing is clearer than that they own their practical virulence *chiefly* to removable causes. But this arrangement is not accidental; it is one which is not answered by a feeling of thankfulness, however sincere; Man must do his duty; and he cannot do this without cultivating the powers which have been given him for the improvement of his race and the exaltation of his nature. Then he may happily repose in certainty on Him without whose knowledge no sparrow falleth to the ground; then may he expect in fulness to enjoy that protection of which his assurance as a Christian is so secure; but which, in some form of instinctive impulse or resting hope must have been present in men who, however less favoured, were still permitted to write—

Permittes ipsis expendere Numinibus quid
Conveniat nobis, rebusque sit utile nostris,
Carior est illis, homo quam sibi.

LECTURES
ON
THE CHEMISTRY OF THE POISONS;
OR, ON
PRACTICAL TOXICOLOGY.

SHOWING THE APPLICATIONS OF CHEMISTRY TO THE DISCOVERY OF CRIME.

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LECTURE III.

A consideration of the influence which the license of counsel has on the development of crime.—The inconsistent conduct of the advocate in a Court of Justice.—Dickens's exposition thereof.—Fox's comments.—Influence which such conduct has on the moral feelings of the lawyer himself, as well as on the character of his profession, and the development of crime.—Scenes of the criminal court.—Origin of all this.—Mr. Forsyth's Hortensius; his defence of counsel.—Mode in which the depraved literature of the day affects an increase of crime; its pernicious influence on the public morals.—Popularity of every species of felon-literature; remarks by the Editor of the "Medical Gazette" thereon.—Objects of the preceding remarks.—Mode in which our inquiries are to be conducted.—Proper objects of the course.

GENTLEMEN,—At the conclusion of the last lecture we were about to consider what influence the unbridled conduct of the forensic advocate has on the development of crime. And I think that most persons will be ready to admit, that the license which is permitted to counsel in courts of law has a very injurious, not to say demoralizing tendency; for all who are conversant with the practice of such courts are aware, that the lawyer is never content with the performance of what may be termed his legitimate duty,—that is, the duty of *fairly* sifting evidence; but, taking advantage of his position near the Judge, and of his conversance with the intricacies of the forum, he strives, under the plea of eliciting truth, to browbeat, to intimidate, and finally to confuse the upright witness. Failing somewhat in this, for he is never quite unsuccessful, he hesitates not to appeal to the most irrelevant matters, as, for example, to attack the reputation of the deponent, to question his motives, to disparage his judgment, and, in fine, to adopt any course, whether it be legal or illegal, honest or dishonest, so that he may have a further chance of breaking down all that is opposed to the interests of his client.

Well enough have many of our popular writers deemed it to be necessary to expose and censure so gross and improper a condition of things. Even Dickens, with all his humour and levity, has more than once become serious upon this important subject, and has given us some very graphic descriptions of the inconsistencies of a lawyer's conduct. Need I remind you of his Mr. Serjeant Buzfuz—a too common character? or of what he tells us in the story from "Master Humphrey's Clock," where he says, that the advocate who was against poor honest Kit, and who had to speak first, was in dreadful good spirits; for he had, in the last trial, very nearly procured the acquittal of a young gentleman who had had the misfortune to murder his father. "He spoke up, you may be sure, telling the jury, that, if they acquitted *this* prisoner, they must expect to suffer no less pangs and agonies, than he had told the other jury they would certainly undergo if they convicted *that* one."

Another eloquent writer in commenting on this subject, says, "That which should be the pure, simple administration of justice—the balance of equity held between man and man—becomes, instead, a trade, where the vilest falsehoods are promulgated by the tongue of the hired advocate; where truth and falsehood are out of the question; where the palm of skill, the reward of merit, the highest honour, are given to him who can most triumphantly carry through the worst cause; where calumny and opprobrium are ready to be cast upon those to whom reverence is due, and where aspersions are always at hand for innocence and virtue. These, and such as these, are thought to be good, sound, lawyer-like proceedings; because the law, like the press, is deemed by some to be a trade—a sordid trade—instead of being, as it ought to be, the protector of the helpless, the redresser of injuries, the vindicator of the rights of our fellow-creatures."

This, gentlemen, is the language of one whose conversance with the effects of such practices upon society is very great—one whose well-known voice has often been heard in the defence of right, as well as in the condemnation of wrong; and many too there are who will readily join with him in the censure which is here so forcibly urged against the conduct of the "hired advocate," believing that the opprobrium which now rests upon the bar has been brought there by the free and unscrupulous conduct of its members—a conduct which no circumstance can make venial, and which no fee can ever requite; for it degrades the moral condition of him who uses it, as much as it does, the character of the profession to which it peculiarly belongs.

Truly, says a contemporary, the very doubtful question of obligation to exercise, for a fee, all one's faculties, alike to defeat a just, or to carry an iniquitous cause, is a sore trial to the ingenuous mind and clean soul. To examine a witness, whom you know to be perjuring himself; and to baffle the attempts of opponents who are endeavouring to extract the truth, is but strange fencing with morality; and when such conduct is confirmed by much practice, or by the experience of use, it has a tendency, to say the least of it, to blind the judgment, to corrupt the finest feelings, and to harden the purest heart. But, in my opinion, it does more than this; it weakens the barriers which have been raised against crime, and so tends to destroy some of the best elements of our social system.

If, gentlemen, I felt, that in order to give strength to these remarks, it was necessary for me to refer to the procedures of actual legal practice, I should do so, by recounting some of the scenes which are daily exhibited in one or other of the criminal courts of this kingdom,—scenes of counsel striving to obtain the management of the very worst of cases, and exerting themselves to the utmost in the defence of the very worst of criminals—scenes of subtlety, intrigue, and low cunning, such as could not be tolerated in any grade of society except the legal one—scenes of forensic display, in which every manly and honourable feeling are unhesitatingly sacrificed; in which there is a wanton perversion of truth, of law, of justice, and, in fact, of every good principle which does or can oppose itself to that for which the advocate is labouring, namely, the acquittal of an atrocious villain. Such an advocate must identify himself, more or less, with the being whom he defends; for it is impossible for him to practise his calling with that success which is so necessary to his pseudo-popularity, without his doing so; and, doing so, he can have no care, either for the intentions of the law, the dignity of his profession, or the common interests of society; but, being actuated by one solitary and bad principle—the love of gain—he toils on regardless of all the better feelings of human nature, making the law, as Mr. Warren justly says, not a blessing, but a curse, inasmuch as, through him, it offers a shield to the guilty, and becomes the detestable instrument of meanness, trickery, and oppression.

All this has arisen out of a privilege which has been most graciously accorded to the accused, viz., that he may have the benefit of counsel to advise, and of advocates to defend. So great a privilege has been extended to him simply with the view that his interests shall be fairly considered, and that law and justice shall be rightly administered to him. It was never intended that, through the exercise of such a prerogative, the ends of justice should be perverted, or that a blustering and unprincipled advocate should have the opportunity of making a ruthless attack upon the character and feelings of every witness whose testimony happened to be opposed to the interests of his client, and that client, too, in most cases, an acknowledged and atrocious scoundrel. Where, let me ask, is the person who has not at some time or other perceived, or, I may say, felt, the cruelty of such barbarous attacks? and who, having witnessed them, has not writhed in agony, and prayed that the judge would intercede

his authority so as to screen the defenceless victim from the merciless attacks of his assailants? I cannot perceive that there is any merit even in the successful issue of such proceedings, for the advocate occupies a position which detracts from any pretension either to bravery or to skill. In ninety-nine cases out of every hundred the lawyer is beyond the reach of danger, his assaults being directed against a weak and disordered adversary, one who is altogether unpractised in the weapons of his opponent; besides this, to quote from a contemporary, the advocate of the criminal is, generally a perfect master of the rules of the tournay, and has every advantage on his side, for his brief is conceal'd armour, and his "instructions" are a protection strong as the shield of Ajax.

Such an anomaly as the successful opposition of law to justice, or of truth to falsehood, ought not to exist, and all good men will, I am sure, admit that it cannot be too soon or too peremptorily put an end to; for who can have a doubt concerning the mischievous tendency of it, or who can question the great influence which it has in promoting the evil courses of the criminal.

Here, however, we ought to state that the liberty of speech and gross license which are too often indulged in by almost every member of the Law, have been somewhat checked, and perhaps in part reformed by some of our judges; but still we may say to them, even in the emphatic words of Hamlet, "O! reform it altogether, and let those who play your clowns speak no more than is set down for them."

In connexion with this subject I may, perhaps, be allowed to remark, that the opinion which I have here expressed concerning the conduct of barristers is not an uncommon one; on the contrary, it is the opinion which is very generally entertained by those who are at all acquainted with the practices of our criminal courts. Even the members of the bar are aware of this, and many efforts have been made by them, in order to show that the conduct of counsel is not only excusable, but necessary. One very ingenious defence has recently been published by Mr. Forsyth, but although I have carefully perused it, I cannot perceive that he has in any way supported his position; on the contrary, if we do away with his special pleading concerning the non-existence of this license, his arguments tend rather to condemn the system than to support it; for he says, "Such a license all right-thinking men must repudiate, and it tends only to the dishonour of a noble calling to represent it as requiring and justifying the use of trickery and falsehood. The principle is as clear as noon-day, that no man ought to do for another what that other cannot, without moral turpitude, do for himself. The advocate stands before the tribunal to plead the cause and represent the person of his client, *ulimur enim fictione personarum, et velut ore alieno loquimur*; but he cannot possibly, by virtue of his agency, acquire rights greater than are possessed by his principal. He may not assert that which he knows to be a lie. He may not connive at, much less attempt to substantiate, a fraud. He may not avail himself of the wretched sophistry of Paley, and say that there are falsehoods which are not lies; that is, which are not criminal. . . . In fine, every man is under an obligation to speak the truth if he speaks at all, and virtually promises to do so every time that he opens his lips." So, again, it must be admitted that "success in such a conflict has no ennobling feature, and happily mankind are so constituted as to value the heart more than the head, and withhold approbation from those whose powers of argument are better than their principles."

The last cause to which I shall allude, as having an influence on the crime of secret poisoning, *is the ill condition of the literature of the country*. No one can, I am sure, question the demoralizing tendency of a great portion of our modern romance. Its influence may be perceived in every grade of society, by its affecting the commonest, as well as the worst, of human passions, leading the ignorant and ill-disposed to be lieve, that crime, when it is well performed and well sustained, is commendable and heroic. Look, for example, at the pernicious influence of that style of literature which pertains to the new French school, and see how eagerly the multitude seek after the productions of such writers as Eugene Sue, Dumas, &c.; not to mention the names of some of our own countrymen who have followed in the same path, and who appear to pant after the same kind of pseudo-popularity. Ask at any public library, whether the stories of Jack Sheppard, Lucretia, Saint Croix, Brinvilliers, the Medecis, the Wandering Jew, the Mysteries of Paris, of London, &c., are not more sought after than any other writings of the day; and bethink you what must be the influence of such productions upon the course of the immoral. "We do not hesitate to declare," says the editor of the *Medical Gazette*, in a leading article for January the 15th, 1847, "that the fictitious literature of France and England has been mainly instrumental in producing the recent increase of the crime of poisoning in this country;" and he goes on to remark, that a large proportion of modern novels may be regarded as convenient hand-books of poisoning, for the guidance and instruction of the public. In every page are detailed the means whereby secret murder has been successfully perpetrated, with suggestions on the cautions to be pursued by future experimenters upon the lives of others, in order to avoid detection. Within the last twelve months three popular romances have been published in the English language, in which Cæsar Borgia, the prince of poisoners in the 15th century, has figured as a principal character. The fictitious histories of the Marchioness of Brinvilliers and Madame Laffarge, have lately vied with each other in exciting the prurient imaginations of the patrons of felon-literature; and the names of the "*Aquetta de Napoli*," and of the "*Manna of Saint Nicholas*," are now as familiar to the public ear, as were formerly those of the "*spirit of Mindererus*," or the "*Eau Medicinale*." It is, in fact, impossible to determine the extent of evil which is sure to be produced by the diffusion of this kind of literature; though we can readily imagine that it is among the secret sources of the very worst of crimes. Moreover, it must be evident, that the publication of such works of fiction has not only to do with the moral degeneration of the people, but it must also disgrace the history of the country, by exhibiting the depraved condition of the public mind, and the impotency or unconcern of the Government in all affairs which relate to the turpitude of the people. Well has a recent writer observed, in his comments on the character of our modern literature, that posterity will dig up from merited oblivion these monsters of iniquity, and regard them with a feeling of the geologist, who scans his uncouth vestiges of hideous creatures with mingled horror and surprise, thanking God that he did not live in that unhealthy and monstrous state of the world which fostered such things into form and animation.

Here, however, I must leave this subject: and, in doing so, I must offer to your consideration, as an apology for having wandered so far from the main object of these lectures, the importance of the matter with which we have been engaged, and the necessity which truly exists for the exposure and removal of the many sources of crime, before we can expect to put an efficient check upon the frequent perpetration of it.

I have also been led to think, that, by recounting the scenes which are so commonly witnessed in the Courts of coroners, of magistrates, and of judges, you might be enabled to form a faint estimate of the difficulties with which you will have to contend when you appear as medical witnesses therein. At a future time I shall take an opportunity to define your duties more clearly, and to point out the manner in which you are to proceed in all cases of suspected poisoning.

As to the mode in which we shall conduct our experimental inquiries in this place, I have to state, that we shall be occupied in making a practical examination of the physical and chemical properties of the various poisons; that we shall commence with the mineral acids, and then proceed to the alkalies, to the poisonous earths and metals proper; and, lastly, to the consideration of the properties of those poisonous substances which are of vegetable or animal origin.

I have chosen this mode of pursuing the subject, because I believe that it will lead us very gradually from the consideration of the simpler poisons up to the study of the more complex; and, also, because I believe that the ordinary mode of discussing and examining poisons, as for example under the heads of irritants, acrids, narcotics, &c., is open to many serious objections, not the least of which is the fact, that no satisfactory classification, either of poisons or of drugs, has yet been constructed upon a physiological basis.

And with regard to the rule by which I have been guided in filling up our list of poisonous substances, I may say that I have not been directed by any strict or scholastic definition of a poison, but I have simply brought together those substances which are generally supposed to produce a hurtful effect upon the living animal body. And I hold myself excused, also, from entering into any detail concerning the nature and *modus operandi* of the several poisons; because the medical literature of this country has already furnished a sufficient amount of information upon these points. It will be understood, therefore, that the object of these Lectures and instructions is of a truly practical character, so that they have been entered upon, not with the view of furnishing an elaborate dissertation upon the poisons, but merely for the purpose of supplying a few deficiencies which are acknowledged to exist in all our works on Toxicology, viz., deficiencies with regard to the clear exposition of those chemical processes whereby the presence of a poisonous substance is to be recognised. I trust, also, that in the course of our inquiries into the subject we shall be enabled to fill up many gaps, and to clear away many discrepancies, which exist at the present time in the chemistry of these bodies. Towards the end of the course I propose that we shall enter upon the subject of chemical and physical antidotes, and that we shall inquire into the facts which relate to the normal existence of certain poisons in the animal fabric. Other questions of considerable importance will doubtless present themselves during the pursuit of our investigations, and I shall not fail to direct your attention to them and to discuss them fully in their proper places.

In our next Lecture we will commence the examination of the mineral acids.

ORIGINAL CONTRIBUTIONS.

MEDICAL SCHOOLS AND UNIVERSITY TOWNS OF GERMANY.

By Dr. BUSHNAN.

(Continued from page 5.)

THE OFFICIAL MEDICAL OFFICERS OF GERMANY.

Attached to the Ministry or Department of Public Instruction, under the name of "Supreme Medical Board"—*Wissenschaftliche Deputation*—is a body placed at the head of all the medical affairs of the kingdom, and with the exception of the President and Secretary, formed entirely of medical men. No person whatever can obtain authority to practise, unless he has submitted to the State-examination—*Staats-Examen*-conducted by this Board. Dating its foundation, from the year 1685, it has ruled supreme since that period, and with but few changes or alterations from its original cast. Two kinds of duties are specially attached to it; first, the conferring licences on those proposing to practise as physicians, surgeons, accoucheurs, or apothecaries; and, secondly, arbitrating between patients and their medical attendants,—their award, in these cases, possessing all the authority and weight of judicial decisions. Similar colleges were nominated in 1724 for the respective provinces. In 1808, the direction of medical affairs was associated with the department of the Minister of the Interior; and in the subsequent year, the Supreme Medical College—*Ober Collegium*

Medicum—was suppressed. Finally, after various changes, the statutes of 1815 and 1817 regulated the now existing hierarchy of the public medical officials.

In virtue of these regulations, a medical college —*medicinal collegium*—exists in the capital town of each province, over which the governor presides or, in his absence, the first councillor. The members are six in number, the president, two physicians, an accoucheur, apothecary, and veterinary surgeon.

Their duties are to give advice or counsel to the Provincial Medical Government on every question of medical police. They revise also the pharmaceutical tariffs, and form a Committee of Examination for licensing practitioners. They further sit in evidence on ambiguous cases of legal medicine, confirm or ratify medical certificates, direct the sanitary measures demanded during epidemic or epizootic diseases, and further embrace the examination of mineral waters. Finally, they periodically transmit reports on the general medical affairs of the province to the Supreme Medical Board at Berlin.

Subordinate to the Provincial Medical College are the *medicinal racthe*, or medical councillors of the districts, into which each province is subdivided, each of whom resides in the capital town of their district. Under these, again, there is placed the lowest grade of the medical functionaries, the Medical and Surgical Inspectors of Cantons—*Kreisphysici and Kreiswundaerzte*—who are to watch over the practitioners in their respective cantons, and in all cases of legal medicine communicate with the judicial authorities.

The hierarchy of the public medical officials in Prussia conforms thus, in its distribution, to the political divisions of the Kingdom. The point of centralization is the capital, where the Supreme Medical Board presides. Descending to the provinces, we find in each a Provincial Medical College. Ramifying from these we meet a Medical Councillor in each district, while the cantons, or ultimate political divisions of the country, acknowledge the authority of their "Medical and Surgical Inspectors," of which there is one in each, as also one in each district. There are about three or four districts in a province, and the number of cantons in each of these varies from fifteen to twenty-five.

All the Medical Officers receive their pay from the State. It varies, according to the rank and length of service, from 50*l.* to 500*l.*, which is about the salary of the members of the Central Board.

These public medical functionaries are a perfectly distinct class of men, and have no connexion whatever with the faculties associated together for the purpose of teaching medicine. They do not obtain their appointments by the *concours*, but they must submit to an examination which is specially intended for them. Whatever academical degrees or honours are conferred by the Medical Faculties, it is only from the State, through the medium of the supreme Medical Board, that the licence to practise is procured; and to grant the necessary license constitutes one of the most important functions of the officers, whose duties we have now described.

THE METHOD OR COURSE OF STUDIES IN THE PRUSSIAN UNIVERSITY—THEIR DURATION—THE HOSPITALS—EXAMINATIONS.

As a step iniatory to matriculation in any of the Faculties of Prussia, as well as of the other States of Germany, it is indispensable to show a certificate that the holder thereof has concluded his classical studies. When the student has matriculated, he is presented with a card, which presents a printed list of the different lectures which are to engage him during the progress of his studies.

The period which is necessary to complete the medical curriculum extends to four years, constituting what is technically named the *quadriennium academicum*. Each course lasts six months, the lectures being delivered at least three times weekly by the Professors. The scholastic year extends from the end of October to near the close of March; and from the beginning of May to the middle of September.

Strict and formal almost to a degree, as are the rules laid down, it is most singular that the students are under no compulsion whatever as regards the order in which they should engage in their different studies; so that a pupil of the first year may be found pursuing a course of pathology or clinical medicine. The proper method of study is certainly pointed out to them by appropriate professors; but their words are generally unheeded by the student. And further, to complete the absurdity, there are no examinations instituted during the progress of the lectures, so that the first two or three years of a university life is generally spent in idleness and dissipation. Hence in the fourth year, students anxiously hurry to regain their lost time, and in their anxiety to pass their examinations, get crammed with a heterogeneous mixture of facts and theories, which fortunately many of them, when they have gained the object of their ambition, as speedily forget, to renew their studies in sober earnestness. Not one in twenty, says Dr. Hoeffer, employs seriously the full period designed for the course of study.

The first year is usually spent in attending the lectures on Natural Philosophy, Chemistry, Botany, Mineralogy, Zoology, Logic, and Psychology. It is necessary that the student in medicine pass an examination in these separate branches of study before the Faculty of Philosophy to obtain the degree of Doctor. It is imperative, also, that this examination should take place in the presence of the Dean of the Faculty of Medicine.

In the second and third years, the student usually is occupied in the study of Anatomy, Physiology, Pathology, Toxicology, and the History of Medicine. These are generally altogether of a theoretical character.

The dissecting-rooms have little attractions for students; and besides there is a paucity of *materiel*, in consequence of popular prejudice running high in Germany on that matter.

The fourth year is devoted usually to the study of midwifery, and clinical medicine.

Of the opportunities afforded for clinical education, that at La Charité, of Berlin, is the best known. But although this extensive Hospital contains nearly 1,000 beds, only 90 of these are set aside for the public medical and surgical clinical wards, and almost all the cases received there are of the acute type. The reason of the exclusion of the students from other wards is simply this, that the patients occupying them pay for their residence in the Hospital.

In the progress of his studies, the pupil at first merely walks the wards of the hospital, listening to the examinations of the patients by the physician or surgeon, and attending lectures. Students are then termed *auscultanten*. In the second division of their course of attendance in the hospital, they are termed *practicanten*, as then they receive and treat the patients themselves, visiting them every morning, and often twice a day, writing out their cases, and submitting them to the criticism of the clinical instructor; and, in the event of death, making the inspection, and reporting on the case.

It is not compulsory, however, on the pupils to expose themselves to all this turmoil, as it is only those who put their name down in a register for the purpose who enjoy the advantages of personal clinical instruction. In the surgical department of La Charité, the student *practicans* examines the patient under the eye of the surgeon, delivers his diagnosis, and gives him his assistance in the operating theatre. His functions then cease, for he is not entrusted with the after-treatment, nor does he again see the patient.

Commonly the student *practicans* does not treat more than three or four patients during each session. One year is the time given to Hospital attendance, the instances of two years being so employed are rare.

The examination for the degree of Doctor is a matter of mere form. There is both a written and an oral examination. A Latin dissertation is required, the subject of which the candidate may select himself, but it is more usually chosen by the Dean. Having defended this publicly, he is now acknowledged as *doctor medicinæ rité promotus*. This is, however, merely an honorary title, for it confers on him no authority whatever to practise. This is to be afterwards procured by submitting to the State-Examination, which alone confers the license on a practitioner, and is of a very formidable character.

The committee of the State Examination holds its sittings at Berlin. The regulations by which it is guided were laid down in 1825.

It examines for the purpose of granting a licence, PHYSICIANS, SURGEONS, AND APOTHECARIES.

Having obtained the doctorate from any of the faculties of medicine, the holders sometimes restrict themselves to the practice of medicine, or engage both in that of medicine and surgery. The examinations differ accordingly.

Of the searching nature of these State-Examinations, it is sufficient to observe, without entering into minute details, that they are of a most precise nature, and truly efficient. Fourteen days is the period usually allotted to the examination of candidates in medicine, though it may sometimes be prolonged to three weeks. In surgery it extends to fifteen days for those who desire to acquire the title of operator.

The examination for permission to exercise the art of apothecary, or pharmaceutist, is confined to chemistry, botany, pharmaceutic manipulations, toxicology, legal medicine, and chemical analysis. It will be seen from this, that the practice of medicine or of surgery is completely prohibited to the apothecary.

To fulfil the office of Medical Inspector of a Canton, the candidate has a certain number of dissertations proposed to him, three or six months in advance; he has to make a judicial investigation of a body according to the usual process; he must be well acquainted with the falsification of drugs; and, finally, he is interrogated by three examiners on all the departments of science which pertain to the public health.

These examinations are conducted at Berlin; but, they may also take place in the provinces, before a jury named for the purpose by the minister. To save expense to poor candidates, special juries have been appointed in the towns of Coblentz, Breslau, Kœnigsberg, and Greifswald.

(To be continued.)

UPON HÆMATURIA AND ITS DIAGNOSIS.

By ROBERT VENABLES, A.M. M.B. Oxon; Incep. Cand. Royal College of Physicians, London.

Were we to decide the presence of blood, or, indeed, of many of the abnormal principles occasionally present in the urine, from the general or special appearance of the excretion itself, or from the apparent characters of the deposits which subside, after the urine has been left quiescent for some hours, we should often be betrayed into serious error, as the following histories will serve to illustrate:—

I was consulted, a short time since, by a gentleman, aged about 60, in consequence of his having observed blood, as he supposed, upon several occasions, in the urine voided, more particularly, after taking exercise,—that is, after walking more than was his general custom. Nor was this suspicion confined to himself alone, as some others—and expert observers, too—adopted the same view. I obtained a specimen for examination; it presented the following characters:—

It was turbid, dark, and quite opaque. Upon standing for some hours, a dark red-looking sediment fell down to the bottom of the jar. The supernatant urine retained no particular colour, remained turbid, but allowed the light to pass through. Passed through the filter, it came through of a deep and bright amber colour, and perfectly transparent. No peculiar smell. Sp. gr. 1030. Reddened litmus paper.

What was retained on the filter, examined by the

microscope, presented a number of epithelial scales, somewhat coloured; some globules of mucus, and a few square tables of lithic acid.

The filtered urine, examined for albumen by heat, with both nitric acid, nitro-hydrochloric acid, and prussiate of potass, gave merely a haze, but no trace of this principle. Uric acid separated in very small quantity from the acidulated urine. Solution of sesquicarbonate of ammonia threw down a large quantity of prismatic double phosphate, and also some phosphate of lime.

A portion of the dark reddish sediment, placed under the microscope, was found to consist of very minute rhombs of uric acid (a) of rather a dark outline, agglutinated together, and intermixed with epithelium of a deep colour.

A portion collected from the filter, and ignited, left a residuum which resisted all further action of th heat, even the blow-pipe flame. This residuum mixed with charcoal, and ignited before the blow pipe flame, was not attracted by the magnet, and consequently, could not have contained any magneti iron. The residuum, after ignition, boiled wit nitro hydrochloric acid, filtered and diluted wit water, and treated with yellow prussiate of potass gave no appearance whatever of prussian blue. Nor did tincture of galls, or hydrosulphate of am monia, indicate even a trace of iron. Under thes circumstances, I felt warranted in denying th presence of *blood* in this urine.

I never met with urine of similar character bu once before, about three years since. It was specimen brought to me by a gentleman; it pre sented much the same characters as those just now detailed; nor could I satisfy myself, after a rigi examination similar to that pursued in the presen case, of the presence of blood. On stating this t the patient, he assured me, that his urine had been pronounced bloody by several gentlemen whom he had consulted. I found, too, that a specimen brought to me, upon a subsequent occasion, passed by the same gentleman, presented the most un equivocal evidence of containing blood, the presence of which was fully proved by both microscopical and chemical examination. I therefore concluded, that, by some accident or other, I had failed to detect the blood in the first specimen, and that I had deceived myself as to its nature.

But the circumstances and phenomena of the recent case were so precisely similar, that I determined to investigate the matter with the greatest possible care and attention. I therefore repeated the analysis three several times, and I was unable to discover, upon any one occasion, any evidence of the presence of blood—not even a trace.

Hæmaturia, however, of a most unequivocal and indisputable nature, supervening in the first case after a short interval, induced me, upon the present occasion, when stating to the patient that the urinary sediments, though peculiar, afforded no evidence of being blood, to apprise him that it might be the precursor of, and in all probability would be followed by urinary hæmorrhage, a prediction which, whether warranted or not by the circumstances, turned out to be true. The first specimen I received on the 20th June, and it was the fourth or fifth occasion upon which, after sharp exercise, the bloody-looking sediment appeared in the urine.(b)

On the 2nd July, I received a second specimen of the urine passed by the same gentleman, after active exercise in walking. This was darkish and opaque, but on standing let fall a dense, dark red looking mass, leaving the supernatant urine turbid, semi-opaque, and of rather a brightish red colour. It was nearly devoid of smell; sp. gr. 1030; reddened litmus paper, and abounded, as did the former specimen, in urea, and the earthy phosphates. The presence of blood in this urine was most fully proved by the following evidence:—

A portion of the sediment placed under the microscope clearly showed the blood discs. The urine thrown on the filter, though of the brightish red above described, came through of a light amber colour, without any appearance of red.

A small portion of the matter retained by the filter, collected, transferred to a slide, and placed under the microscope, showed the blood corpuscles, thus proving that the reddish colour of the supernatant urine depended upon the mechanical suspension or intermixture of the red particles.

A portion of the dark red sediment collected and ignited before the blow pipe, with charcoal, became magnetic, being strongly attracted by the magnet. Another portion ignited; the residue after ignition was boiled with nitro-hydro-chloric acid. The solution diluted with distilled water, and passed through the filter, gave, with the usual tests, distinct and unequivocal evidence of the presence of iron; for instance, with yellow prussiate of potass i formed Prussian blue; tincture of galls threw dow the black precipitate; and hydro-sulphate of am monia threw down sulphuret of iron; free sulphu being precipitated, when hydro-sulphuric acid alon was used.(a)

Assuming, from the above, that in the two cases the particulars of which have just been stated, that peculiar condition of the urine—*apparently* but no *really*, sanguineous—preceded actual hæmaturia it may be matter for future inquiry, whether such condition is necessarily a precursor of bloody urine r whether it be a precursor only of some particula form or forms? Then the question naturally arises what peculiar hæmorrhagic condition does it indicat as threatened? For myself, the opportunities o observation and for forming inferences have been too limited to enable me to offer anything plausible ven, much less satisfactory or conclusive. There is one result, however, of importance, the necessity o not being over-hasty in deciding the nature o urinary deposits, without chemically or otherwise determining their properties.

Urine containing blood is almost necessarily lbuminous; for we can hardly imagine the bloodiscs escaping without the serum; and it was the non-coagulability in the first specimen of the filtered urine, and its *coagulability* and reddish colour previous to filtration in the second, which led me to believe the first to be devoid of blood; and, in the second, to infer the presence of blood and the general sanguineous character of this urine.

Another question also presents here,—the most easy and the most ready means of deciding the sanguineous character of the urinary deposits, and of the urine itself? The elements f the blood may be arranged under the three llowing heads; viz., the serum, an albuminis fluid not spontaneously coagulable; the liquor sanguinis, a fibrinous fluid spontaneously coagulating, in consequence of the spontaneous solidification of the fibrine; and the hæmatine, constituting he red particles. The two first may occur in the rine, as has been frequently observed after certain febrile states of system, especially scarlatina, after hich coagulable urine often occurs as a sequela. But we can hardly consider any urine as bloody, unless the red particles of the blood be present; and many instances occur in which the urine, from its general *sensible* properties, would be pronounced bloody. The detection, therefore, of the red particles seem essential to be able to pronounce the urine really and unquestionably sanguineous. The coagulability of the urine by heat and certain re-agents, affords, in doubtful cases, but presumptive evidence; consequently, we must look to the hæmatosine as the only certain proof of the sanguineous nature of the urine.

The microscope is much relied on for the detection of the blood discs; but, as it is liable to certain fallacies, and in some instances wholly inapplicable, from changes in the blood discs themselves,—we cannot safely depend upon it. Chemistry offers the next, and probably the most unequivocal means of detecting hæmatine. M. Pariset proposes the following:—Boil and filter the urine, when brown coagulums of albumen and hæmatosine will be retained by the filter. Pour upon these a solution of potass; a greenish fluid will pass through, if hæmatosine were present. If hydrochloric acid be added to the filtered liquor, it will precipitate coagulums of white proteine. This, however, is liable to certain fallacies, which it would be foreign here to our purpose to discuss. It will be necessary to understand the principles of diagnostics in the previous detail, to state the chemical composition of hæmatosine. Mulder, from his analysis deduced the following formula for hæmatosine:—



$N_3 \; H_{22} \; C_{44} \; O_6 \; Fe_1$

The iron in hæmatosine is in the ratio of 6·64 or 6·66 per cent. As iron is an essential principle in the constitution of hæmatosine, it necessarily follows, that if blood be effused into the urine, we shall be able to discover some trace of iron; and this is the foundation of the pathological views enunciated in the preceding observations.

Various methods may be proposed for the detection of the iron; but perhaps the most simple consists in boiling the urine, and coagulating all the principles coagulable by a temperature of 212° Ft. It may next be filtered, and what is retained by the filter should be exposed for some time to a red heat in a platinum crucible, or one of Berlin ware. By this means all the organic matters, and other volatile principles, will be dissipated. The residue may then be mixed with charcoal or black fluid, and ignited before the blowpipe. The iron by these means will be reduced, and rendered magnetic, that is, attractable by the magnet. We thus determine the presence of a principle capable of being rendered attractable by the magnet.

If the ignited or reduced principle be now suspended in distilled water, and a current of chlorine passed through, a chloride of iron will be found in solution, which, on exposure to the air, will pass into sesquichloride.

The ignited mass will consist of oxide of iron mixed with certain fixed salts, as phosphates, &c. From these the iron may be separated by the magnet; but this manipulation will not be necessary.

As the transmission of chlorine may be difficult to some, every object may be attained by digesting the magnetic particles, or even the entire residue, in hydrochloric acid. A chloride of iron will be formed easily convertible into sesquichloride, by boiling with a small quantity of nitric acid. The sesquichloride of iron may be formed at once, by boiling with nitro-hydrochloric acid, prepared by mixing three parts of hydrochloric with one of nitric acid. The solution should be mixed with distilled water, and passed through the filter.

If the iron be in the state of protosalt, ammonia produces a white precipitate, which soon passes to bluish green. Yellow prussiate of potass, a precipitate, at first white, but which soon becomes blue. Hydrosulphuric acid has no action; but if, after passing through a current of the gas, ammonia be added, a black protosulphuret of iron precipitates. The most characteristic test is a solution of red prussiate of potass, which gives Prussian blue. This does not act on the per or sesquisalts.

If the iron be in the state of a persalt, ammonia throws down a brownish-red precipitate of hydrated sesquioxide; solution of yellow prussiate of potass immediately gives rise to the formation of Prussian blue. Sulphocyanide of potassium strikes a deep blood-red colour; but there is no precipitate. Tannin, or tincture of galls, gives the solution of iron a deep violet or black colour. A current of hydrosulphuric acid is attended with the separation of a

(a) I met with very minute rhombs of this sort upon several occasions. The first specimen I showed to Mr. Quekett, and we could not make out their nature for some time. By repeated examination, and getting some of them separated, the rhombic outline became evident. Agglutinated together in this way, and deposited upon the calculus, is, perhaps, the cause of the laminated structure of uric and calculi.

(b) It is remarkable feature, and a somewhat singular coincidence in the history of these two cases, that the urine passed in the morning, after rest, was perfectly clear and natural, and remained so till unusual or severe exercise caused a re appearance of the sediment and hæmorrhagic characters.

(a) It would be quite out of place here to detail minutely and at length the various processes and experiments, both positive and negative, by which the presence or absence of iron was either proved or inferred.

white precipitate, which is free sulphur. If to the filtered fluid ammonia be now added, the black sesquisulphuret of iron falls down. The presence of iron, even in the most minute quantity, may be thus determined; but, where the quantity is exceedingly minute, the evidence of its presence will not be immediate, and will probably require several hours for its complete development.

I have been diffuse in these observations, because I think the matter as important as it is interesting, more especially as relates to diagnostics. I have no doubt that many errors, and wrong notions, as to blood in the urine, have prevailed. In some the sensible characters so closely resemble those of bloody urine, that reliance upon them alone must lead to error. In the hope that these observations will lead to closer investigation, I have been induced to send them for publication in the *Medical Times*.

5, St. Vincent's Place, City-road,
11th July, 1849.

PROGRESS OF MEDICAL SCIENCE.

FRANCE.

As was to be expected towards the close of the epidemic, a few lingering cases of cholera still continue to appear from time to time, both in the city and in the hospitals. Occasionally, also, the mortality exhibits a slight increase; but, as it does not exceed eight or ten per day is hardly worth noticing. One of its latest victims has been M. Hemey, officer of the Legion of Honour, and Director of Salpetriere, who died on the 14th, although his attack dates more than six weeks back. A typhoid fever, of that low kind, which occasionally supervenes after cholera, was the cause of M. Hemey's death.

The Academy of Medicine has not yet produced its long-promised "Directions for the Treatment of Cholera," nor pronounced any decided opinion on the contagious nature of the malady. Our warm-blooded neighbours are marvellously slow in many respects.

MONOMANIA EROTICA.

One of the most curious cases of this kind on record came before the notice of the tribunals in the early part of the week. As it is almost unique, I shall relate it in detail.

François Bertrand, 25 years of age, was sergeant in the 74th regiment of the line, which he had joined as a volunteer in the year 1844. He is a young man of interesting appearance, extremely pale, and nothing in his countenance indicates the dreadful malady under which he labours. His answers are perfectly clear, and his previous conduct in the regiment had been such as to gain the approbation of his superiors, which led to his promotion from the ranks.

About three years ago, the Cemetery at Bleré, near Tours, was entered by some persons unknown, and the graves opened. The wife of the grave-digger thought she recognised one of the soldiers of the garrison, but no attention was paid to this circumstance, and the matter dropped. At a later period, similar violations of the tomb were repeatedly committed at Père la-Chaise, but the malefactor was sought in vain. Once, indeed, the watch discovered Serjeant Bertrand, in uniform, concealed in a freshly-opened grave; but he explained his presence in the cemetery, by a *rendez-vous* with his sweetheart, and was released.

The scene of violation was next transferred to Ivry, where the greatest consternation was excited amongst the rural population. A young girl, seven years of age, had been cut off rapidly by disease. According to the beautiful custom which prevails in France, she was placed in her bier, clothed in the finest of her white robes, and surrounded by her favourite playthings. On the following night her tomb was opened; the robe was torn into fragments, and the body mutilated. A sacrilegious hand had torn out the child's heart, and, strange to say, the ignorant peasantry attributed the misdeed to the infant's father. The most rigorous researches remained fruitless.

But it was in the Cemetery of Mount Parnassus, and after the dreadful days of June, 1848, that the violations alluded to became more frequent and horrifying. Almost every morning the guardians found the bodies of females, mutilated in the most disgusting manner, and cast about the remote paths of the burial-ground. Their redoubled exertions to detect the intruder remained, as heretofore, fruitless. Even the savage dogs, trained to guard the sanctuary, seemed to have forgotten their duty. Extraordinary measures were now had recourse to. A musket, loaded to the muzzle, was placed on a tomb opposite a part of the wall where some traces of scaling had been remarked, a wire, connecting the trigger with the portion of wall alluded to, was carefully arranged, and the men remained on watch in the neighbourhood. At midnight a dreadful explosion was heard, and when the guards rushed to the spot, they perceived a young man bounding, with a tiger's agility, over the tombs. In a few seconds he was at the foot of the wall, which is nine feet high, and disappeared on the other side; the guardians were unable to surmount the obstacle, they fired a shot or two at the intruder as he scaled the wall, and found some fragments of uniform on the ground, with traces of blood and footsteps—nothing more. The culprit had again escaped in a miraculous manner, and might have remained undetected but for a most curious chance. The event had occurred on the evening of the day which preceded the execution of Daix and Lahr for the assassination of General Brea. On the day of execution, the line of troops extended from the Barrière of Fontainebleau to the Cemetery of Mount Parnassus. As the grave-digger was hollowing out the grave destined for the assassins, he accidentally overheard some soldiers of the 74th relate how one of their sergeants had been cruelly wounded, in a mysterious manner, on the preceding night, and how he now lay at Val-de-Grace.

This led to the discovery of Bertrand, who ultimately confessed all to M. Marshal de Calvi, one of the surgeons of the hospital. Although the unhappy maniac had received several dangerous wounds in the chest and other parts of the body, from which fragments of lead and iron were extracted, he recovered, and was tried on the 10th ult.

A short note, which he had transmitted to M. Marshal, contains the essence of the case, and is worthy of record:—

"From the age of seven years (says the writer,) my parents remarked, that I was subject to a species of mental derangement. I frequently retired to the most solitary places, and there remained for hours, absorbed in myself. It was in February, 1847, that I was first seized with a kind of fury. I was walking with one of my comrades near the cemetery of Ivry, when I remarked that the grave-digger had left near the grave the several instruments which he employed in his work. I cannot describe the sensations I experienced at the sight. As soon as I could get rid of my companion, I returned to the grave-yard, disinterred the body, and mutilated it. I then placed the body in the grave; but, as I perceived some persons at the gate, I apprehended detection, and lay down for some time beside the dead body. On leaving the cemetery I was seized with a kind of fever, and remained for two hours in a complete state of lethargy. Two days afterwards I returned to the grave-yard, reopened the same grave with my hands, and again mutilated the body.

"On arriving at Paris, I thought that my unfortunate passion had ceased; but some of my friends engaged me to visit *Père le Chaise* with them. I returned in the evening, disinterred a body, and experienced a strange pleasure from tearing it into pieces. I retired in a state of mental derangement; but when my reason was restored, I felt such horror at what I had done, that I remained seven or eight months without returning to the cemetery. I never could induce myself to mutilate the body of a man; as for females, I experienced the greatest pleasure while cutting up their bodies into pieces."

On his examination, Bertrand confessed, that he had often opened, with his hands alone, ten to fifteen graves in the same night. When the dogs rushed on him, he used to remain immoveable for a few minutes: the animals became appeased, and allowed him to pass on. In his state of exaltation he used to climb the highest walls without knowing how. Thus, although he received five wounds in the body, and twenty-nine projectiles in various parts of his dress, from the discharge of the musket at Mont Parnasse, he was able to bound over a high wall which none of the guards could climb over.

In some interesting remarks on this strange case, made by M. Marshal before the court, he observed, that the monomania of Bertrand was simply "destructive" in the commencement. After a considerable lapse of time, it became "erotic" also; and this result or complication is familiar to medical men. Dr. Baudens, chief physician to Val-du-Grace, was likewise of opinion that the acts committed by Bertrand had been perpetrated under the influence of an irresistible monomania. The court, notwithstanding, condemned the prisoner to twelve months' imprisonment. A case somewhat similar to the above occurred, I may remark, many years ago, in the neighbourhood of Versailles. But there the maniac was an Anthropophagus. He disintered bodies merely for the pleasure of eating them: and his favourite morsel was the intestinal canal. One day he noticed a child of twelve years of age near a wood in which he lay concealed. To seize the child, drag him into the wood, and strangle him, was the work of an instant. He then sucked his victim's blood, and eat the heart. When questioned by the court, his excuse was, *Je ne l'ai pas mangé tout à fait.* "I did not eat him entirely." Such cases are, fortunately, rare even in the wide circle of human derangements.

SUICIDE BY A CHILD.

A remarkable case of this kind, illustrating an unusual degree of perversity on the part of a child nine years old, occurred recently at Dunkerque. The boy first threw himself under the wheels of an omnibus and was rescued with some difficulty by the passers-by. He next attempted suicide by throwing himself before a railway train, but his attempt was frustrated in like manner. Finally, having announced to his little comrades that he was resolved on dying because his parents beat him every day, the unhappy infant threw himself into the canal at Bergues and there perished. Since the Revolution of February we have had several examples of suicide committed by children of very tender age.

CHAMELINE—A NEW VACCINE MATTER.

Dr. Agnielli, Director of the Committee of Vaccination at Algiers, has found a new virus, which, like the vaccine, is protective against small-pox, which he proposes to call "Chameline," since, according to the statement of the Arabs, it is the product of an accidental eruption on the female of the camel; it resembles that of the cow. We should rather imagine it to be *the* virus transmitted through a different animal, and not a resemblance only; and, if there be anything accidental about it, it is the camel, and not the eruption which is so. However, Dr. Agnielli intends travelling with a caravan, in order to verify his conjectures.

M. de Falloux, Minister of Public Instruction, intends, it would appear, to remodel the medical code and give it a definitive character. As a preliminary, he has appointed a Medical Committee to report on the modifications desirable. It is composed of M. Berard, Dean of the Faculty; Orfila, Paul Dubois, Trousseau, Denouvilliers, Dubois (d'Amiens), Recamier, Malgaigne, Guerin, Bussy, and Lassiger.

Dr. Berryer Fontaine, Director of Public Health, has been dismissed, and is replaced by M. Liskenne, who formerly occupied the post of Inspector-General in the same service. Berryer-Fontaine was a Republican, and hence the cause of his disgrace.

GERMANY.

TRANSPLANTATION OF TESTICLES.

In Müller's Archives is a most interesting paper with this title, by Professor Berthold, of Gottingen:—

A series of comparative experiments were made

by him: he castrated six young cocks, of two and three months old, leaving the wattles, combs, and spurs untouched.

From two of them (*a* and *d*), he removed both testicles. Thenceforth they took on the nature of capons, fighting very seldom and feebly, and giving the well-known monotonous capon crow. Their combs and wattles were pale, and little developed, and the head remained small. About five months after, they were killed; a small scar occupied the place of each testicle, and the seminal duct had degenerated to a mere thread.

From two others (*b* and *c*), only one testicle was removed, the other left in the belly. In two others (*e* and *f*), both testicles were excised, but one belonging to *e* was transplanted into the belly of *f*, and, *vice versa*, one of its testicles transplanted into *e*; thrust amongst the bowels, and left there.

All four retained the characters of uncastrated fowls; they crowed lustily, frequently fought with each other, and with other young cocks, and exhibited the ordinary inclination for the hens. Their combs and wattles developed like those of others.

The cock *b* was killed two months after; its single testicle was of the ordinary place, but had hypertrophied, and, on section, a white fluid exuded, which contained cells, but no spermatozoa.

On the same day, the remaining three had their well developed comb, and wattles excised. The cock *e*, at the same time, was deprived of the remaining testicle; and *c* and *f* examined in the ordinary situation in vain for their transplanted organ.

The now fully castrated *b* never grew comb or wattles; it ceased to concern itself about the hens, and fought no more with its own sex. *C* and *f*, however, reproduced both comb and wattles, and preserved their ordinary chivalrous demeanour. They were killed six months after the transplantation. In *c*, the testicle was found behind the colon and between the ends of the cœca. In *f* it was nearer their middle, but otherwise in the same situation. They were of large size, and received large branches of the mesenteric vessels, which passed towards them, entered, and then took the ordinary course, in relation to their seminal tubes. On incising them, a normal seminal fluid exuded with the ordinary cells and spermatozoa.

The author concludes:—

1. That the testicles are transplantable, and reunite with living tissues after their union from the body, not only at their ordinary site, but in an abnormal situation.

2. Like the grafted tree, the organ on this new place, still preserves its specific properties, and secretes its specific fluid.

3. It is well known, that after division, a reunion of nerves restores sensation and movement. And it follows, from these experiments, that as the re-union could not have been one of those originally divided, there are no *specific* seminal nerves; that nerves only are requisite—a strong, nay, almost a fatal objection to the theory, that would constitute the sympathetic a *trophic* nerve, or nerve in itself specifically organized with reference to nutrition.

4. The consensual and antagonistic relations of the life of the individual and the species, seen from puberty to old age, are continued in spite of the separation of the testicles from their ordinary place and nerves, and their removal to another part of the body. These animals were, in all respects, veritable *males*. It would thence follow, that the *consent* in question results from the productive relation of the testicle; that is, through the operation of its secreted fluid immediately upon the blood, and through a corresponding operation of the blood upon the general organism. In this, no doubt, the nervous system takes an important part. These experiments are most interesting, and fully bear out the Author's deductions; but the first must be limited to the animals in question, or, at least, must not be hastily extended to higher organizations or older animals. This, however, in no degree impairs the physiological conclusions set forth by the Author.

Still, however, the real question that science perpetually asks with a sigh, concerning all secretions, is as undecided as ever. "Why does the testicle secrete semen?"—we can as little answer as ever. Nay, more, let us recollect an important and much more immediate step in the process is wanting,—the great agent is unknown.

For how, from these instances, can we determine whether the union of nerves did or did not precede the resumption of secretion? or, let us say, rather, in such young animals, the *perfection* of this process? Yet an answer to this question would be an important addition to our present knowledge.

PROGRESS OF PHYSICAL SCIENCE.

ROYAL GEOGRAPHICAL SOCIETY.

June 25.—Second paper read "On the City of Abila and the district called Abilene, near Mount Lebanon, and on a Latin inscription at the river Lycus, in the north of Syria," by John Hogg, M.A., Hon. Secretary. Mr. Lempriere, of the Temple, in October, 1843, travelling between Balbec and Damascus, found two Latin inscriptions cut in two tablets on the side of a mountain at the foot of which the present road passes to Suk. The first inscription, (No. 1,) which is very perfect, consists of six lines, and is thus translated:—"The Emperor Cæsar Marcus Aurelius Antoninus Augustus Armeniacus, and the Emperor Cæsar Aurelius Verus Augustus Armeniacus, restored the road broken away by the force of the river, the mountain being cut through by the authority of Julius Verus, the Legate of the Proprietors of the Province of Syria and their friend, at the expense of the inhabitants of Abilene." The second inscription, (No. 2) contained in a smaller tablet, is somewhat obscure, and perhaps imperfect, in its second line. Mr. J. Hogg proposed to interpret it in one of the three following ways:—"For the safety (1st) of the Emperor Aurelius Verus; or (2nd) of the Emperors Marcus Aurelius and Aurelius Verus; or (3rd) of the (two) Emperors and of Verus Lucius Maximus, Tribune of the 16th Legion, called Flavia Firma, who presided over the work, living performed this vow for him (or them) deservedly." This Lucius Maximus must clearly be the same person, who is named Tribune of the same legion, in two Greek inscriptions found in Syria, and published in Burckhardt's travels in that country. The tablets containing the two inscriptions were more than 100 feet above the road. The mountain itself has been evidently cut through, as the inscription No. 1 records it had; and traces of the old Roman road are still visible above the present road. This place must have been in the territory of the Abilene, of which the chief city was Abila. Ruins of some ancient town had been observed by the late Dr. E. Hogg, near Suk, some years ago, and which, in all probability, was the site of Abila, the Tetrarch of which district was Lysanias (Luke iii. 1). The author cited authorities to prove that that spot agrees perfectly with the Abilene of Lysanias in or near Mount Lebanon, or rather Antilebanon; and that the city of Abila, (of which name there were some other cities in Syria) might have stood at or near the position now occupied by Suk. The date of the inscription No. 1 was about A.D. 164, and of No 2 later. These two inscriptions, as far as Mr. Hogg can find, have never been published, or made known, though Mr. Bankes is said to have noticed some inscriptions near that place; but that which was the subject of the second part of the communication has been described in a tablet exactly like that in which the inscription No. 1 is engraved in the natural rock, on the side of the "Antoninian Way" leading to Beirut, just over the Dog River, Nahr el Kelb, the ancient Wolf River of Strabo. The time of the erection of this last monument, the author considers to have been between A.D. 175 and 177. Its inscription is also of much importance in a topographical view, for as No. 1 fixes the locality of Abilene; so this decides which of the rivers on the Syrian coast was the ancient Lycus.

University of London.—The number of candidates for matriculation this year was unusually large, amounting to 166.—*Globe.*

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THE MEDICAL TIMES.

SATURDAY, JULY 21, 1849.

We have lately, on several occasions, advocated most strongly the paramount necessity of some arrangement being made, and that quickly, for insuring a provision in the decline of life to the members of the Medical Profession, and at the same time apportioning an annuity for their widows and orphans. The subject has been indeed forced on us, as well by the memoirs we have been honoured with from various quarters, urging the consideration of the matter as one of vital importance to the Profession at large, as also by the melancholy retrospect of our medical career, in which we discover so many blanks left by the premature deaths of our early professional friends, chiefly, we must say, through the effects of contagious diseases. It is, therefore, with much satisfaction, that we observe a disposition on the part of the Profession to adopt in earnest some plan that shall be competent to obviate the effects of the shafts of fate" which seem to fall more than usually heavy on the members of the sister Professions of Medicine and Surgery.

Efforts have been made, variously modified, at different times, and in various localities, to attain this end. The schemes, however, being local, and necessarily limited in their sphere, (an objection almost fatal to arrangements or associations with such an object in contemplation, as their strength virtually depends on the number of the assured), they have had, for the most part, but a temporary existence, never being fully consolidated nor arriving at any maturity. For this various reasons might be assigned, but these it is unnecessary to inquire into: we shall, therefore, briefly as possible give the heads, or a summary detail of a plan that has been recently proposed, adding a few words by way of comment.

The Association to which we allude has originated with Mr. Hawtayne, and bears the name of the Medical and Clerical Annuity, Superannuation, and Benevolent Society, being established pursuant to the Act of Parliament and 7 Wm. IV. c. xxxii. It is based on the Mutual principle, and comprehends Three Distinct Objects.

"First.—That of granting annuities to the widows and orphans of the members of the above Professions at their decease.

"Secondly.—Of providing a superannuation fund" (deferred annuity) "for such of its members as may be incapacitated from pursuing their avocations from age, infirmity, &c., and

who, at the same time, shall not possess other adequate means of subsistence.

"Thirdly,—The formation of a Benevolent Fund, from donations, subscriptions, or other contributions, its purpose being purely philanthropic, directed to the aidance of distressed members of the Association and their families."

As a feature altogether new in the formation of this Association, in the case of widows and children, they reject the common plan of giving one sum, *in cumulo*, at death, considering it preferable to adopt the method, or system, of Annual Payments, as securing to the annuitant a larger pecuniary return than can be effected by the plan in ordinary practice.

With regard to the Annuity Branch, it is proposed,.

"First.—That to constitute a member, a fee of Two Guineas be paid on entrance, with an annual premium of not less than 1*l.* 10s., and that, at the time of nomination, a small equitable sum be paid for disparity of age between the member assuring and that of his nominee, as regulated by Tables to be especially constructed for the Association."

"Secondly.—Each annuity to commence at 15*l.*, and to be increased by the addition of 1*l.* annually to 20*l.* as a maximum; but no annuity to be claimable until five years' premium shal have been paid, either annually, or in one sum at the option of the member.

"Thirdly.—That each member may be allowed to subscribe for six annuities, but not more than three annuities can be granted to one nominee.

"Fourthly.—Annuities to widows of members to cease on their re-marrying, and to daughters on their marriage; but, in either case, to accrue again in the event of widowhood.

"Fifthly.—Annuities, on a reduced scale of payment, may be secured to male orphans, but to cease to be payable on their attaining their majority."

Another, and we judge a most essential and peculiar feature in the Society, is the Benevolent Fund, designed to afford temporary relief under sickness, accident, or other unforeseen contingency, formed from donations or voluntary subscriptions, somewhat analogous to sick allowances. In this arrangement, we conceive, at once the peculiar strength and attraction of the proposed Institution must rest, as the contingencies which beset the Medical life are so great as render it more than usually precarious. The propositions connected therewith require mature and deliberate consideration, especially to avoid all imputation of an eleemosynary nature to the too sensitive minds of the Profession.

While, then, we award our meed of praise to the general plan and principle, there are one or two points at which we feel disposed to take exception—perhaps we do this in ignorance—but as philanthropy is to be held as the basis of the whole superstructure of the Institution, we conceive the more simple and uniform the rules, the less the number of exceptional classes, the more all the members range on a par, so much the public, we firmly are persuaded, will judge more favourably of the Institution. When once a member has entered, he ought not to become disqualified, unless voluntarily, whatever part of the globe he may migrate to. This, we think, applies particularly to the medical man; for, though it may be true that, in actual warfare, his is a thrice-tried life nevertheless, in Great Britain, we believe, his chance of life is not much different, if we take the average of all the other quarters of the globe. The less intricate, the better; the more simple the working of the machinery, the more confidence will the Medical world have in it, and the more liberally, by parity of reason, will the Benevolent Fund be countenanced by the public.

Again, we do not say that the Institution does so, for the tables have not yet been published; but we would propose that there be no fines, and the utmost facility of re-admission offered to all and sundry. The Society should not feed and get pampered on the miseries of its members; the rates being distinctly calculated to withstand all contingencies, no chance accumulation or profit should be permitted. With respect, also, to the practical working of the Society, we have our fears, that the more profitable branches of the undertaking would engross all the attention of the managers, and thus that the benevolent portion of the scheme would be dwarfed into insignificance. We feel assured that a benevolent fund will require the entire energies and devotion of a distinct Society to make it successful. On this ground, then, we should ask Mr. Daniel to consider well before he sacrifice his infant Society to the interests of a new Institution. We have understood that Mr. Daniel has, in a very liberal and unselfish spirit, entertained the desire to merge the two Institutions into one. The policy of this act in the present stage of the proceedings would be doubtful; and there is room enough for both. Mr. Hawtayne's scheme will in the end be carried out on purely commercial principles and intentions: Mr. Daniel's Society must always have, in order to carry out the views of its originator, a benevolent character, without being eleemosynary. If Mr. Hawtayne's plan should succeed, it does not appear to us that it would eventually supersede the necessity for Mr. Daniel's. It is certain, however, that Mr. Daniel's scheme must be considerably modified.

Our observations might be extended on this subject, important both to the non-Medical as well as to the Medical world. We cannot conceive for a moment that Society does not feel a deep interest in the happiness and welfare of the members of the Medical Profession; and knowing as we do, practically, personally, and professionally, how unsusceptible the body is of the poison of contagious disorders, (from which, as already stated, so numerous deaths occur annually amongst Medical men,) when the mind is cheerful, buoyant in hope, and secure (in the event of death) that the world's comforts still shall continue the widow's lot and the orphan's portion—in that very cheerfulness, hope, and security, the individual has the highest protection against the chance of catching infectious disorders, and the best safeguard, should he unhappily fall ill, against a fatal result. The same principle undoubtedly applies to every person; and equally cogent with them is the reason, to participate, as far as human foresight can, in the securities that Insurance Offices present to every member of the community.

The proportion of Medical men who die from the infectious class of disorders, is immeasurably great. Every fifteenth Medical man perished in Ireland during the last great epidemic. We have the fact further indisputably ascertained, that casualties are thrice as frequent among the Medical Officers of the Army, compared with the officers, who have, in addition to all the rigours of the campaign, the occasional opportunity of "glory" in the forlorn hope, "seeking the bubble reputation in the cannon's mouth." Of all classes of society, then, the Medical members therefore would seem to be trebly called on to support Institutions of the nature of those now submitted to them. It might be, perhaps, alleged, that the scope for such a society as Mr. Hawtayne's must be very limited *now*, considering the various institutions, divested of all class character, which are already established over the length and breadth of the land; and, therefore, it is unlikely to command the great object in such associations—numbers. So far, we allow this objection its full weight, but that is, we apprehend, altogether trivial; for it has been calculated, we believe, on tolerably correct data, that the number of assured to the whole population is little more than as 1 to 100. The range of insurance is by no means fully developed, and the very marked success which has attended almost every one established since the opening of the present century, so far as solvency is concerned, affords a tolerably fair presumption in favour of a new candidate for public confidence, particularly as that Association intends to embrace a class of insurers who have hitherto only been merged into the great commercial insurance bodies; their peculiar relations to society (decidedly a most serious omission, if not a positive blunder, in the framing and disposing of their claims and expectancies) being totally overlooked and discarded. There is one hint we would add, and it is this: that, as the times press stern and stiff around us all, no Medical man should decline to enter Associations such as these because he cannot secure what he might deem the happiest form of insurance; but let him insure for the smallest benefit, and afterwards augment his claims,—not reject a part because he cannot procure the whole.

It is understood that an early meeting is to be held for the purpose of giving the subject full consideration, and it will be our duty to see that every facility is given to the promotion of the extension of so praiseworthy and laudable a scheme.

ALLEGED ABUSES IN PRIVATE LUNATIC ASYLUMS.

Within the last few years great improvements have been made in the laws relating to lunatics confined in public hospitals or private asylums; but, even now, some fresh enactments appear to be necessary in order to correct abuses which are said occasionally to be perpetrated in the latter institutions. A benevolent legislature has endeavoured to guard the insane from those cruelties to which they were formerly

exposed, and they can now be consigned to our asylums without being whipped, goaded, or manacled. It was the boast of one of the speakers at the last Anniversary of the Bethlem Hospital, that the patients admitted there had that security guaranteed to them which was not enjoyed by those whose pecuniary means were such as to enable them to pay for attendance in private lunatic asylums. Here we have an intimation that it is possible for these establishments to be made the instruments of oppression and cruelty, and hence we are sure that gentlemen who are Superintendents of these houses will be anxious that means should be adopted to remove suspicions which still appear to attach to them. As Private Asylums exist for a class of patients who are enabled to pay for their board and medical attendance during the time they are detained, a notion prevails that some are kept in confinement when they ought to be set at liberty. The case of Nottidge v. Ripley has excited public attention on this point, and the Gloucestershire magistrates have, within the last fortnight, been engaged in examining into some charges against the principal of a lunatic asylum in the neighbourhood of Bristol. Into the truth or falsehood of these charges it is not our intention at present to enter; it is enough for our purpose that they have been brought forward, and in consequence the Chairman of the Board of Magistrates, the Rev. F. T. Witts, has proposed some important alterations as regards the government of private institutions for the insane. He states, in his Report, that abuses exist in these places which could not possibly occur in prisons. He says, also, that the investigations of himself and Dr. Lyon, at the Fishponds and Ridgeway, have resulted in the release of one patient from each house, leaving now there none but those *legally confined.* Such a statement as this, coming from a clergyman and a Chairman of a Bench of Magistrates, is calculated to produce a most unfavourable impression on the public mind in reference to private asylums, tending, as it does, to show that they may be made prison-houses for persons against whom a mere charge of insanity is brought while they are yet in the enjoyment of a sound mind.

The Chairman, in the course of his Report, commented on the Law of Lunacy, stating that it is divisible into two parts—the one relating to public and the other to private asylums. The law for the poor is founded on publicity, that for the rich on secresy and seclusion. The tendency is to produce opposite results—of kindness and relief for the poor, and of severity and retention for the rich. The Chairman, moreover, reiterates that which has been before stated —" that it is the interest of the proprietors of private asylums to obtain and retain patients, and, while maintaining their bodily health, to hurry them through the several gradations of mental disease, till imbecility finally supervenes." He contrasts, moreover, the advantages which result to those who are placed in public asylums —the buildings being erected in accordance with the most scientific principles—the officers selected from many highly qualified candidates; while private institutions "are generally not built, but adapted for the purpose for which they are intended." That there is much truth in this statement few can doubt, while at the same time it must also be admitted that there are many private asylums built upon the most approved plans, and conducted in the best manner.

In order to remedy existing evils, it is proposed that in the cases of persons not paupers, but who are unable to bear all the expenses necessarily connected with their confinement in private asylums, the magistrates in petty sessions, and after hearing evidence upon oath, should have the power of determining what proportion of the required sum should be paid by the parish, and what by those relatives legally liable to aid in relief. To remedy improper arresting of persons and confining them, also the giving of improper certificates, the Chairman would have for all classes, above paupers, the order for arrest issued only by a magistrate, upon a written declaration, on oath, of the insanity of the patient, with a sworn written statement of the circumstances forming the reasons for such declaration:—

"Upon his summons, let two certifiers, each a practising physician, being a licentiate of the College of Physicians, or a practising surgeon, being a member of the Royal College of Surgeons, each previously sworn, and neither connected with the proprietor of the asylum for which the patient is destined, separately examine the patient. Let each certificate be founded upon a sworn written declaration of his insanity, with a sworn written statement of the facts forming the reasons for such declaration, and be signed by the certifier only after the examination of the patient and of others, the latter upon oath, taken in writing, and in the presence of a magistrate, countersigning the same, and appending one copy of the examinations to the certificate to which it belongs, and giving another copy to the patient.

"Let him then annex his warrant for the patient's reception at the intended asylum."

Certain regulations are also proposed "for the accommodation in private asylums of the insane imprisoned frequently for double the number of years, that the worst felon is months." The Report suggests further, that in no instance should a certificate be received from "a mere country apothecary; but, from a member of the Royal College of Surgeons or Physicians." And who is the "mere country apothecary?" We think that nine-tenths of rural Practitioners possess the double qualification; and we are quite sure, that Shakspeare's man,—

"With tattered weeds and overwhelming brows,
Culling of simples,"

has long since passed away. We are compelled to admit, however, that the "mere apothecary" and the member of the Royal College of Surgeons have both been defectively educated in Psychological science. It is a department of medical education which our Corporations have most improperly neglected. Neither the College of Surgeons nor the Apothecaries' Company requires students to have attended Lectures on mental diseases, and institutes no examinations on these subjects. We doubt, in fact, whether either of the Courts are capable of entering upon the matter at all; for the present, therefore, the science of Psychology will be neglected by a large number of medical students. The magistrates' sarcasm should not be without its influence upon the College and the Hall. We have stated, in another column, that they are now appearing to act in unison as regards their system of education. It yet needs to have engrafted upon it a course of instruction on mental diseases, and the members or licentiates of that Corporation which first demands it, will be best qualified to give a certificate.

To improve medical education is a duty imperative also upon our licensing Corporations, in order effectually to prevent persons of sound mind from being incarcerated in private asylums. It is desirable that real lunatics should be early brought under a course of proper medical treatment; but, it is also right that the liberty of the people should be in no way endangered. There are cases in which the nicest discrimination is required; but if the medical attendant has neglected to cultivate Psychological science, how is he to decide according to the principles of rectitude and justice, when cases of alleged insanity are brought under his notice. We, therefore, feel called upon to entreat our Corporations to fulfil a duty which they owe to the Profession and society, by commanding all medical students to attend a course of instruction on mental diseases; and to examine them on these subjects. Then, with a few more salutary Enactments for the better regulation of Lunatic Asylums, and we shall rarely hear of there being confined within their walls sane persons.

THE ENGLISH APOTHECARIES' COMPANY AS A LICENSING MEDICAL CORPORATION.

A fortnight ago we informed our readers that the English Apothecaries' Company had issued a new curriculum, which cannot fail to exercise an important influence upon the rising generation of Medical Practitioners. We consider this circumstance, therefore, as an important era in our Profession, and it naturally directs our attention to the singular position which the Corporation occupies in it. In no other country does such an anomaly exist as an Apothecaries' Company giving laws to medical men; and the whole history of this Institution serves to exemplify our peculiarities as a nation. In most of the Continental Kingdoms the Apothecary is the mere dealer in drugs and chemicals; in England, he is the Physician in ordinary of the people, who dispenses his own prescriptions. He is, therefore, the true ιατρος of the Greeks, and *medicus* of the Romans; for the Physicians of both these Republics prepared the medicines ordered by themselves. The term apothecary, applied to a section of the English Medical Profession, is a misnomer; yet the Corporation, through whom this name has been entailed and perpetuated, by a singular necessity, has been compelled to amalgamate that which ought to be for ever separate, viz., science and trade.

In an obscure lane, in this great Metropolis, stands a building, having no pretensions to architectural beauty, and without any indications that it is a city hall, except a painted board with gilt letters over one of its doors, and armorial bearings, with unicorns as supports, and a hog in armour,—this is the house of the English Apothecaries' Society, and one of the seats of Government of the Medical Profession. An examination of this structure shows that it is divisible into two parts,—the

one devoted to trade, the other to science. The shop is the most imposing part of the building, —the entrance for students and candidates for the diploma being by an arched door-way, within which is the beadle's office. Those who have sought the "license" say, that the only things of note, after you have passed this portal, is a large clock and a gloomy "funking-room." But this uncouth building is a relique of antiquity with which is associated much that is interesting to the members of the Medical Profession.

That modern Solomon, who could with equal facility break a lance with a bishop, or write "a counter-blast against tobacco," gave to the Apothecaries' their original Charter. Previously, they had been associated with grocers, and this incongruous union had been the means of preventing pharmacy, in England, from making that progress which it had made in other European kingdoms. Here, however, the Apothecaries early begun to practice medicine as well as sell drugs and compound Physicians' prescriptions. At the commencement of the last century, the College of Physicians disputed the right of the sellers of drugs to exercise the healing art, which, however, was established by the celebrated decision of the House of Lords, in the case of the College against Rose; and the Apothecaries from this time have acted without molestation as Medical Practitioners. The law passed in 1815 invested the Company with most important privileges, and it is to this we must ascribe the progress which has been made in medical education by what are now called General Practitioners.

The College of Surgeons, at the commencement of the present century, had received a charter of incorporation, but had done little to promote the real welfare of the Profession. The Apothecaries Act, however, served, in some measure, to rouse the College from it lethargy, and, from time to time, it extende its educational course in order to keep pac with the Company, and we find them now issuing regulations in common with eac other. The Society has, therefore, done wel for the Profession in the matter of medical education; its existing curriculum being equa to that of any University or College in the kingdom. But the question arises,—Is such an Institution a proper one to rule in the Medical Profession? We think that it is not, and with this opinion the present rulers of the Company agree. We arrive at this conclusion from the fact, that they have offered, on certain conditions, to surrender the privileges conferred upon them by Act of Parliament. The constitution of the Society, as a Medical Institution, is most defective. The Court of Examiners must be chosen from members of the Corporation; and while this Court is now composed of intelligent professional men, it may hereafter not have a single individual in it who knows anything of Medicine. We are bound to look beyond the present to the future, and it is possible for the Apothecaries' Society to be the means of doing as much injury to the Profession as it has done good. It must always remain a trading Company, for the *members* have invested a certain amount of capital, and expect profitable returns: if, therefore, druggists, or any bold speculators, should obtain a majority and seize the reins of government in Water-lane, the sale of certificates would be looked upon as a most important item in business, and every means adopted to make it as extensive as possible. The old licentiates, having no corporate privileges, would be unable to check their Mammon-loving rulers, and the consequence would be, that persons with scarcely any knowledge of Medicine would be sent forth with authority to practise it.

While, then, we give credit to the Apothecaries Company for what it has done, we have no wish that it continue a licensing institution. We would not, however, have its privileges taken away, except for the purpose of conferring greater benefits on the Profession.

VITAL STATISTICS, AND PUBLIC HEALTH IN SCOTLAND.

We have just received intelligence of the Bill for the registration of the Deaths in Scotland being withdrawn—the registration of Births was a part of the same Bill; along with this perishes the separate Registration of Marriage Bill; and also that for extending the Public Health Bill to Scotland. All these Bills are necessary to place Scotland on the same footing with other civilized nations,—why, then, are they resisted, and successfully resisted, by Scotsmen too, in the Imperial Parliament? Free Institutions are above all price; otherwise we might be tempted sometimes to count the cost, when a handful of senseless or interested agitators by abusing the liberty they are unworthy of, can defeat measures of general utility. And, in truth, petty agitations are becoming a nuisance. The addle-headed too often get the upper hand. The sensible part of the country stands too much aloof, declining to be roused to action, but on occasions which it deems worthy of its interference. It is of small avail to place able men at the helm of affairs, if all that is little in the country is left at liberty to hang on their skirts and impede their onward progress.

Our chief regret is for the indefinite postponement of the exact Registration of Deaths. The science of Vital Statistics is well known to be of particularly slow growth, and in Scotland there is still the very foundation to lay. Thus we have the more cause to lament, because Scotland, owing to its smaller extent, and by reason of some peculiarities in its Institutions, offers a more favourable field for bringing out precise results than most other countries; and how desirable this is, no one can look into almost any question, in which Vital Statistics are concerned, without feeling in the strongest manner. With an intelligent Registrar, able to appreciate the importance and the difficulties of his task, and having the power to regulate the nomenclature of diseases to be employed in the Registration, and to enforce uniformity, we might hope, in no very long time, to see a body of details collected, which, when properly methodized, would place the science at once a step higher in the ranks of exact knowledge.

As to the Public Health Bill, we fully expected that it would pass, and so modified that it would have saved Scotland from the direct interference of the London Central Board—the body which has there reaped such golden opinions for its proficiency in Medical Logic. We have the more reason to regret the withdrawal of this Bill, that the Nuisance Removal and Contagious Disease Prevention Act applies to Scotland as well as to England; and thus, as far as its provisions are concerned, Scotland is left, without restriction, under the control of the Central Board. One thing is certain; till they show themselves better entitled to confidence in their wisdom and discretion, they need expect no co-operation from the Medical Profession.

THE OPERATIVE SURGERY OF JOHANN FRIEDRICH DIEFFENBACH.

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In my last I offered a few preparatory remarks upon Dieffenbach's great work, and the plan I proposed to pursue in presenting his views and opinions to the English reader; and now, passing over the history of Surgery, we arrive at

THE FIRST PART.

CHAPTER I.

THE EXTRACTION OF FOREIGN BODIES.

(*Extractio Corporum Alienorum.*)

The subject of foreign bodies in the organism is most comprehensive. To it, in the widest sense, belong not only foreign heterogeneous substances forced into the body from without, but likewise calculus formations, incrusted excrementitial matters, and portions of dead bone; each as alien to the organism as a fragment of wood, a bullet, or a splinter of glass.

I. To the first series pertain those which surround a projecting part of the body, and determine accidents, as, for example, finger-rings.

II. To the second those which are impacted in the natural inlets and outlets of the body; foreign bodies in the nasal cavities, in the gullet, in the rectum, &c.

III. To the third series belong those hard substances, the entrance of which is attended with injury, as for instance balls and splinters.

IV. To the fourth appertain those formerly connected with the body, but, having become dead, are extraneous; bony splinters, portions of necrosed bone, and the like. Calculous concretions will be treated of under the head of operations for the stone.

1. *Removal of firmly attached and constricting foreign bodies from projecting parts of the body.*

The removal of foreign bodies which constrict projecting parts is sometimes attended with great difficulty, more especially when they have caused inflammation, and burrowed so deeply into the textures as to be scarcely discernible. These are generally finger-rings, or strings or cords fastened round the penis during relaxation, to prevent seminal emission, and which give rise to continued erection and inflammation.

Gold and silver rings are most readily nipped across in a slanting direction by means of sharp wire-shears, nail or bone nippers, the point of one blade being insinuated as far only as one half of the ring, and the section finished at successive intervals. It is generally impracticable to use a file in consequence of the swollen condition of the skin. I have always divided rings. The narrowness of the space will rarely admit of the interposition of a leathern strap for the protection of the integuments. When the ring is divided the cut ends may be twisted asunder with a couple of pliers.

A similar mode of procedure may be adopted with regard to rings fastened on the penis; their removal is attended with more difficulty, however, and not unfrequently rupture of the urethra ensues.

Owing to excessive swelling of the member, and approaching gangrene, the integuments are so much elevated above the foreign body as to conceal it entirely from view. In this case, an incision several lines in length ought to be made without delay forwards or backwards on the dorsum, or along the side of the penis, in the healthy integument. A director, slightly bent inwards, is to be introduced into the opening, passed beneath the skin or the cord or ring, and the whole divided with a curved bistoury, as in the operation for paraphymosis. If a metal ring be present, it should be divided with wire shears. The after-treatment is to be adapted to the amount of inflammation.

A young man put the ring of a key round the root of the penis, whereupon such extensive swelling supervened as to require scarification. Not till then could it be withdrawn. In a similar instance, an iron ring was removed by the aid of a file. Another youth contrived to force his penis and scrotum through the oval slit of a steel for striking fire. As the parts soon became excessively turgid, it could not be got away. It was impossible, moreover, on account of the hardness and thickness of the metal, to use a file or saw. By happily adapting a couple of screw hand-vices, the steel was riven across, any detriment to the patient.

II. THE REMOVAL OF FOREIGN BODIES FROM NATURAL CAVITIES, WITHIN REACH OF THE SURGEON.

1. *The removal of foreign bodies from the nasal cavity.*

Foreign bodies in this locality are met with most frequently in children of from three to six years old. Their abstraction is often very difficult, especially when they have caused swelling, are firmly fixed, and situate high up. The most common are leguminous seeds, peas, beans, little stones, glass beads, bits of wood, pipes stalks; in the instance of adults, ends of pipes, buttons of foils, fragments of pincers, silver-wire left behind after attempts to remove polypus, dossils of lint, blotting paper, and compressed spunge, which may have served as plugs, to check hæmorrhage.

In the first place, it is requisite to ascertain the nature of the foreign body, and also the nostril in which it is lodged. For this purpose, the patient being seated facing a window, the surgeon gently introduces a blunt silver probe, curved at the end, and moistened. The substance, if small, and not wedged in, may be directly extracted with the probe, insinuating the concave side of the instrument behind it, and securing it in a favourable position. Sometimes the irritation excites sneezing, and whenever this can be foreseen from the grimaces of the patient, sudden pressure is to be made on the opposite nostril, whereby the body will be expelled through the current of air and the concussion. This will occasionally follow a pinch of snuff.

Should the first attempt fail, and the surgeon be aware of the situation of the foreign body, the head is to be thrown back, supported by an assistant, while with the left hand he presses upwards the tip of the nose. If the subject be a child, he takes a strong silver director, bent at the end like a flat hook, passes it from below upwards round the extraneous substance, lowers his hand in order to elevate the point, and withdraws it in that direction. For infants an oculist's curette will be found suitable. When the substance is firmly fixed, and cannot be got away with the above instrument, a small pincer may be employed, in the manner of a polypus forceps, one blade being directed upwards, the other downwards. The expanded blades being made to grasp the body, a few gentle to and fro movements are performed, and the extraction achieved. It is not safe to exercise much pressure in the instance of glass beads, lest they break, or even with regard to swollen beans or peas, lest they be crushed. Residuary fragments often create more mischief than the original mass. These are best removed with an ordinary forceps.

The dislodgment of firmly impacted hard substances from the nostril is frequently difficult. I generally use a straight polypus forceps. The manipulations here are the same as for the torsion or extraction of solid nasal polypus. The hæmorrhage is ofttimes considerable; to be arrested only by cold injections and cold applications to the forehead and nose. Where the foreign body is too large to pass the nasal orifice or to be pushed into the throat, it is necessary to divide the ala nasi. Bulky substances alone ought to be propelled into the gullet, because, if small, there is the risk of danger of their dropping into the windpipe. Bits of sponge, lint, and other kinds of plugs are readily withdrawn by the aid of polypus forceps, after water has been previously squirted up. To allay pain and inflammation, tepid injections of decoction of mallows may be thrown into the nostrils.

2. *The Extraction of Foreign Bodies from the Antrum Highmorianum.*

This is seldom called for, as these rarely effect an entrance through the narrow concealed aperture. On the other hand, it now and then happens that bullets or grains of corn lodge here, either driven in from without, or which have worked their way through an alveolar opening caused by caries. Their removal is accomplished by the same method as that for polypi in this situation; namely, by introducing a small forceps through a perforation in the alveolary process. (See "Opening of antrum.")

3. *The Extraction of Foreign Bodies from the External Auditory Passage.*

This is often indispensable in the instance of children who have stuck peas, beads, berries, portions of chalk or stone in the ears. These are most readily scooped out with a curved director or a curette; if in the anterior part of the auditory tube with forceps. In adults the meatus is sometimes blocked up with dead insects, plugs of cotton, and other things incrusted with cerumen, or with indurated cerumen itself. These, the cause of continued deafness for years, are best extracted with moderate sized polypus forceps. It is advisable to drop in beforehand a little almond oil, and allow the patient to recline upon the opposite side of the head. Great caution is to be observed, so as not to injure the walls of the meatus, or the tympanum. Should violent bleeding supervene, and there be no likelihood of completing the operation at one sitting, cold, and afterwards warm, applications are to be resorted to, so as to favour suppuration. Subsequently, when the parts are relaxed, the substance may be extracted. Fabricius Hildanus witnessed hemicrania, debility of the entire half of the body, obstinate cough, amenorrhœa, epilepsy, and wasting of the arm ensue from the circumstance of a bead having been forced into the ear. Restoration to health followed its abstraction. Sabatier saw typhus fever and death consequent upon the pressure of a pellet of paper in this situation. Power observed protracted salivation and atrophy result from a dossil of wool. I have noticed, after the removal of foreign bodies, long impacted in the ear, that the hearing became so acutely sensitive, as to require the ears to be stopped with cotton. Should a living insect create any distressing symptoms, it may be picked out by the aid of a tuft of cotton fastened to the end of a match; or killed with a drop of oil, and then readily extricated. Solution of acetate of lead, dilute cherry-laurel water, and a weak solution of corrosive sublimate have been used for the same purpose. Comperat destroyed an insect larva in the meatus auditorius by means of tincture of opium. Andry states that a round worm crept along the eustachian tube into the ear.

4. *The Extraction of Foreign Bodies from betwixt the Eyelids and the Eyeball.*

These are of every variety, mostly grains of sand, particles of lime, insects, seeds, and the like. They either lie free between the lids and ball of the eye, or are imbedded in the surface of the cornea or sclerotica,—for example, splinters of steel. Foreign bodies, situate beneath the eyelids, are easily removed, provided these are not inflamed and can be held apart. If situate under the lower lid, this is to be depressed with the left index finger, held firmly upon the skin. If under the upper lid, the central eyelashes are be seized with the fingers, and the lid gently dragged from the globe; then, upon the patient throwing his head backwards, the operator keeping his eye fixed on the intervening space, withdraws the mote by the help of a blunt forceps. The curette answers well when the substance is round; dust, sand, and the like are got rid of by a hair pencil, together with aqueous injections; acrid matters as gunpowder, salt, pepper, by means of a pencil soaked in almond oil. Irritant chemical substances are neutralised by appropriate liquids, and their effects counteracted by a strict antiphlogistic after-treatment; if the eyelids are greatly swollen, they must be carefully opened, and then syringed with warm milk.

Foreign bodies, which penetrate and are firmly fixed within the inner membranes of the lids, are not easily reached, especially when the eyeball is much inflamed and the eyelids are closed from inflammatory swelling. When such is the case previous resort must be had to local or general bloodletting, cold applications, and where the substance has remained a considerable time to tepid, mucilaginous, and narcotic applications. The speculum is seldom admissible from the risk of irritating the eyelids.

If the penetrant body is sharp, angular, and firmly imbedded, it must be removed at all hazards, for fear of its perforating the eye-ball. Where it cannot be picked out with forceps, and is endangering sight, the external commissure of the lids ought to be snipped. The section of the conjunctiva is generally required for its elimination.

For the removal of minute bodies projected into the membranes of the globe, as tiny splinters of metal, glass, flint, or points of needles, the forceps of Professor von Ammon is convenient, the eyelids being held asunder with the ordinary speculum. Very small splinters are most readily extracted with a cataract needle. The surgeon may occasionally avail himself of the hooks employed in strabismus operations, for the purpose of fixing the eye. In the instance of seeds of corn, which do not perforate the eye, it is generally necessary to dilate the minute aperture with a fine cutting instrument, ere they can be withdrawn with the forceps.

When the foreign body has remained so long as to have got incased in a capsule, a slight incisision is to be made, after which it may be picked out with the point of the knife or with forceps.

5. *The extraction of foreign bodies from the larynx or air tubes.*

The extraction of foreign bodies from the air-tubes is an impracticable operation, partly owing to the physiological structure of the parts, and partly to the coincident irritation. The slightest attempt of the kind augments the jeopardy to life. If it be a pointed body, as a needle or a fish-bone, there is always a chance of its having stuck in the superior portion of the wind-pipe. Here, after depressing the tongue with a spatula, it may be seized with a long forceps. Small round substances are apt to fall into the windpipe, and occasion by their ascent and descent, during the act of respiration, the most alarming symptoms. How are they to be secured? With forceps? Death would inevitably follow the experiment. Desault alone proposed the passing of an elastic catheter from the nostril into the trachea.

As a general rule, the foreign body, if of small dimensions, as a pea or little bean, after having lodged for a while in the trachea, drops into a bronchus, commonly the right, because that is shorter and wider than the other. After careful dissections, I have always found it in the right, and never in the left bronchus. It will seldom be evacuated by sneezing provoked artificially, by coughing, vomiting, or by inclination of the head forwards. Only by prompt opening of the larynx or the trachea, can life be saved. All other means are fruitless. Its exact position can be rarely ascertained by percussion, inasmuch as it is constantly shifting to and fro during the first period after the accident, through the movements of respiration and cough.

REVIEWS.

On Gout; its History, its Causes, and its Cure. By WILLIAM GAIRDNER, M.D. 8vo. Pp. 240 London. 1849.

When we first took up this unassuming, little volume, we felt strongly inclined to ask if there were any necessity for a new book on gout. Whatever our opinion on the point may have been, we can now assure our readers, that we have derived much pleasure and instruction from Dr. Gairdner's treatise. Our Author is one of those men—we wish there were more of them—who, after having spent many years in the active pursuit of his profession in this great metropolis, feels that he owes it to his brother-practitioners to record the results of his personal experience, and to give utterance to the opinions which he has formed on the important subject to which his volume is devoted. We shall not follow him in detail through the various chapters of his treatise. Passing over the first chapter, which is general and introductory, we find, in the second chapter, a good description of the different species of gout, and of the different stages of the disease. In treating of the sequelæ, the changes occurring in the joints and muscles, or the functions of the stomach, bowels, and organs of circulation, and in the tone and energy of the nervous system, are duly noticed. The terminations of the disease are then noticed.

"One of these is apoplexy. The same disposition to the deposit of earthy matter, which is so manifest in the articulations of the limbs, is equally evident in the arteries and veins. Their friable coats can no longer bear even the diminished impetus of the blood. But, though the heart is now acting with less energy, the pressure of the circulating blood is, for various reasons, oftentimes greater than before. The limbs and moving powers, it is true, have diminished in bulk, but the belly is more protuberant. Fat has accumulated around the great viscera, which, joined to the congested state of these organs themselves, and the impeded circulation through them, forces an unnatural flow towards the head and brain. The records of Medicine are full of examples of apoplexy, consequent on, and arising from, gout.....

"Another termination of gout is menorrhagia to women at the age when they usually cease to menstruate. This is very frequently seen in a mitigated degree. As it is generally at this period of their lives that women are attacked by gout, the discharge of blood often serves the purpose of a vicarious disease and a cure. It generally alarms them much. There are cases, however, in which they are very justly alarmed. The loss of blood goes the length of extreme and dangerous flooding. But such cases are rare, and generally occur in women of loose fibre, of indolent life, and of self-indulgent habits in matters of diet.

"The same observations will apply to the case of bloody discharges from the bowels,—a far more frequent termination of gout. Hæmorrhoidal bleedings are very profuse, but they give less alarm, though they are liable to be confounded with hæmorrhage from the vessels of the portal system, which latter are characterised by their dark fluids, of the colour and consistence of pitch. These terminations — apoplexy, menorrhagia, hæmorrhoids, and melæna—are but varieties of the same affection. The seat is different, the disorder is the same. Hæmaturia is often mentioned as a consequence of gout. It is rare, even as a symptom. I never saw it terminate the disease. Hæmorrhoids, indeed, and menorrhagia, though they frequently put an end to gout, seldom do so after the manner of apoplexy and melæna, by putting an end to life, but by bringing on the next, the most common and the most alarming occurrence in gout, viz., dropsy, which now claims our notice.

"The most usual forms of dropsy in gouty subjects are hydrothorax and ascites, caused by the imperfect functions of the great excretory organs, the liver and the kidneys in this, and by the disturbance of the heart in that, form of the disease. General dropsy, or anasarca, is much more rarely seen in gout. It cannot surely surprise any one, that a disease which has its principal seat for many years in the central organ of the circulation, should terminate at last in dropsy. The commencement of the dropsical affection is obscure, and the attack often evanescent. It is very common to observe a manifest fluctuation, which has disappeared the next day. A similar remark may be made regarding the water on the chest. It is not unusual to see a gouty patient oppressed with what he calls his asthma, and to receive plain indications, through the stethoscope, of the presence of liquor on the chest, and yet to find these symptoms disappear in a few hours. This is easily explained by relief given to the action of the heart." Pp. 30—33.

These are the terminations of gout which are attended with alteration of structure and destruction of organs; but, as our Author truly observes, gout is sometimes the cause of death, without any intervening processes, like those we have mentioned. He believes that the cases of sudden death, so often heard of in gouty persons, are, in many cases, "only syncope, too profound, and too long continued," and gives cases illustrating this opinion.

There are many passages in Dr. Gairdner's volume which we would gladly transfer to our columns, did our space permit. We must, however, proceed to that portion of the work which has the greatest *practical* value, we mean, the chapter on the treatment of gout. The first remedy he mentions is *blood-letting*. We believe we are expressing the opinion of nearly all those members of our Profession whose position entitles their opinion to any weight, in asserting, that ordinary venesection is hurtful rather than beneficial in gout. Dr. Gairdner agrees with us, that bleedings to such an amount as is necessary to subdue inflammation, are much to be avoided in gout; he is, however, a warm advocate for such bleedings in this disease. He states, that the removal of from three to six ounces of blood, instead of weakening the system, acts as a tonic, and supplants the use of purgatives, which are often noxious in gout, and are sometimes attended with considerable risk. The arguments he adduces in favour of this mode of treatment, are so convincing, that although, as a general rule, we hold blood-letting in abhorrence, we shall certainly give his "small bleedings" a fair trial.

The following remarks on purgative medicines evince sound practical knowledge:—"For some years past I have made little use of the neutral salts as aperients in gout. The profuse watery evacuations to which they give rise are, I think, injurious. The warm, and even the more powerful vegetable aperients, such as senna, rhubarb, aloes, jalap, and scammony, seem to me far better adapted to the constitution of the gouty. They may be given with great advantage in the form of tincture, also associated with the warm aromatics and tonic bitters." Every practitioner of any experience becomes unconsciously attached to certain remedies.

We have promised to give Dr. Gairdner's "small bleedings" a fair trial; let us ask him in return to try our favourite aperient in these cases, namely, sulphur and sulphate of potash, with or without a little rhubarb. Ten grains of *pure* sulphur, (not the admixture of sulphur and sulphate of lime, most commonly called sulphur,) an equal quantity of sulphate of potash, with, occasionally, the addition of five grains of rhubarb, form a combination which we are sure will not disappoint him in these cases.

The alkalis and their carbonates find no favour in our Author's eyes. He regards them as "wholly inefficacious," and states, that he has never seen the uric acid of the urine disappear, or even in any marked degree diminish under their use, whilst this change is speedily accomplished by the administration of the alkaline phosphates, tartrates, and citrates.

The observations on the true value of colchicum in gout, and on the mode of administering it, constitute perhaps the most valuable section of the whole volume. It is well known that Christison and other high authorities maintain that this drug never produces its full effect, till it has produced griping and purging. Our own observation has long shown us the fallacy of this opinion; and we fully concur in our Author's view, that "colchicum never more effectually relieves the patient than when it acts silently and peacefully, without producing any evacuations whatever, or in any way disturbing the patient's comfort and ease."

Although our limited space will not permit us to enter into the consideration of the final chapter on the treatment of metastatic gout, we can assure our readers that they will find much profitable matter therein. And in summing up our remarks on the volume generally, we may observe that no one can rise from its perusal without the conviction that it contains a trustworthy history of the disease, that it conveys sound directions for treatment, and that it is the work of a physician who, amid the wearying toil of a large and successful practice, keeps himself thoroughly conversant with all the recent advances in physiological science, both at home and abroad.

The Journal of Psychological Medicine and Mental Pathology. Edited by FORBES WINSLOW, M.D. No. VII. July 1, 1849.

The present Number of this excellent and interesting Journal fully maintains its just claims to the consideration and support of the Medical and Philosophical reader. The articles are various, and some of them are of high literary and scientific merit. The two which are the least to our mind are, the one "On the Insanity of Dean Swift," and the other, "On Sleep and Sleeplessness." The first certainly furnishes no additional information on the subject of which it treats, nor is there the slightest novelty in the anecdotes related. The writer makes the article a medium for an attack upon phrenology.

"We may here remark," he says, "and the fact is anti-phrenologically important, that the immediate effect of pressure within the skull is to attenuate the *internal* table without producing any corresponding elevation of the *external* table."—(P. 369.)

Where the writer picked up this valuable information, he does not state. The assertion might have passed current thirty years ago, but it is ridiculous now. If the external table is not modified in any degree by the changes in the capacity of the brain, how does it happen that the size and form of the adult head are so widely different from those of the infant? If all the pressure be upon the *internal* table, is it not evident that the skull would always have the same capacity? What is to make it otherwise, if the pressure is strictly limited to this table? The whole argument is about as philosophical as it would be to contend, that when a man puts his legs into two pairs of stockings, the inner pair only adapts itself to the form and pressure of his limbs. For the refutation of such observations, it is not necessary to appeal to phrenological authorities, but simply to common sense. He further observes—

"But after all, the success or non-success of a phrenological interpretation, will depend very much on the skill and ingenuity of the expositor, which as clearly evinced in the case of Raphael, upon a cast of whose skull Spurzheim and Combe lectured for many years, showing how the organology precisely corresponded with his artistical genius, his conduct to the fair Fornarina, and even the disposition of his property in his last will and testament; after which it was discovered that they had been lecturing upon a wrong skull."

We had thought that the time was gone by for these wonderful stories. The writer must be living upon an old stock of mental goods, which he had not the fortune to dispose of when they were marketable.

The Article on "Sleep and Sleeplessness" will interest the general reader. It exhibits considerable taste, and is elegant as a composition. The writer, however, is not equal to the grasping of the subject, which is one of the most important and difficult in the wide range of physiological investigations.

We would particularly direct the attention of the reader to the Article on "Juvenile Delinquency and Degeneration in the Upper Classes of Society." It is philosophical and just in its views throughout,

and the writer is unquestionably a man of very superior mind. This Article alone is far more than worth the cost of the Journal. If the talented and enterprising Editor continues to secure the services of men of this mental calibre, he may lay aside the anxieties necessarily connected with his undertaking, satisfied that the public will not have to be coaxed or entreated to purchase. His labours will be certain to command a ready market.

There is, also, an elaborate Article on the "Lunatic Asylums and Insanity in America," which is particularly worthy of attention. On a subsequent occasion we may probably give an analysis of it. Dr. Ogier Ward furnishes a very interesting "Case of Double Consciousness connected with Hysteria." Our brief space, however, will not permit us to enter upon its consideration, or on that of many other articles equally worthy of notice. We must refer the reader to the Journal itself, and the perusal of it will well repay him.

Dr. Forbes Winslow has, nevertheless, a further claim upon our limited space. He contributes an admirable Article on the "Ramollissement of the Brain," resulting from impairment of mind. It is the best article on the subject we have read. It is just; comprehensive, and practical in its views, and we trust he will concentrate his energies and talent in this direction. He may rest assured that the field on which he has entered is richly worthy of cultivation, and few men possess superior opportunities to himself for doing justice to it. The facts he brings forward are based on extensive observation; and he shows a tact and discrimination in tracing the early manifestations of the disease, which are highly creditable to him. They are always rare qualities in the physician, and far more valuable than an understanding teeming with the knowledge of others. They can be acquired only in the intimate associations with mankind, and then exclusively by those whose powers of mind are peculiarly fitted to observe and analyse.

Dr. Winslow points out the causes giving rise to this softening of the brain, and from the cases he adduces, and the remarks which accompany them, clearly proves how necessary it is that the initial symptoms should be detected, as it is then only that there is a possibility of arresting the progress of the malady. The existing state of society is fruitful in the production of such cerebral disorganisation. The full stretch of the mental faculties in every walk of life, characterised by vigorous and uninterrupted efforts to obtain wealth, distinction, honours, or the means of existence, is constantly making demands upon the brain to which it is unequal, and hence the inevitable result—it breaks down, and presents, in its wreck and wretchedness, every form of mental disease. We say, in the words of Horace,—

"Dum vivimus vivamus."

CONVENTION OF POOR-LAW MEDICAL OFFICERS.

[To the Editor of the Medical Times.]

SIR,—The Committee having sought for an interview with the General Board of Health, relative to the additional onerous duties imposed on the Poor-law Medical Officers by the recent orders of that Board, in consequence of the prevalence of cholera, and received the following reply to their communication, I shall feel obliged by your publishing it, together with the few remarks I have to offer on the subject.

(Copy.)

The General Board of Health,
Gwydyr House, Whitehall,
July 14th, 1849.

Sir,—I am directed by the General Board of Health to acknowledge the receipt of your letter of the 13th instant, in which you call the attention of the Board to the additional onerous duties now pressed upon the Poor-law Medical Officers by the recent orders in reference to cholera, and request the Board to name a day for receiving a Deputation from the Medical Officers Committee on the subject; and I am to state in reply, that the Board are unable to enter into any of the questions connected with the Union expenses incurred in carrying out the provisions of the Nuisances Act, and hence it would be improper for them to entertain the subject of the extra remuneration to which the Medical Officers may be entitled under present circumstances. They have, therefore, to express their regret that it is not in their power to comply with the wishes of the Committee. The question is one that must be decided by the Guardians and the Poor-law Board.

I am, Sir, your obedient servant,
ALEX. BAIN, Assistant-Secretary.

Chas. F. J. Lord, Esq., Hon. Sec.,
Committee of Poor-law Medical
Officers, 4, Hanover-square.

The reply throughout shows the manner in which officials coolly place burthens, hard to be borne, on other people's backs; while the last sentence of it imposes upon the President of the Poor-law Board an additional obligation to exert the power, which he undoubtedly possesses, to secure common justice to the Medical officers acting under the Poor-law Commission.

The trouble and interest taken by Mr. Garlick, of Halifax, to exhibit the false position in which Union Surgeons are placed, is well known to the medical public. Last week I received from him a somewhat private letter, which was, however, subsequently read to the Committee, since which, that gentleman's consent to its publication has been obtained. It forms so good "a rider" to the Letter from the General Board of Health, and is so "*apropos*," that it would be well to insert it here, that Mr. Garlick's zeal and public spirit may induce other officers to make similar exertions.

(Copy.)

Dear Sir,—Enclosed I beg to hand you a few copies of the "Summary" drawn up by me. It has already been laid before the Poor-Board, and a copy has been forwarded to the *Times, Morning Chronicle, Sun, Daily News, Punch, Halifax Guardian, Leeds Mercury, Intelligencer* and *Times, Manchester Guardian, Wakefield Journal*, and *Bradford Observer*.

I hesitate not to give Poor-law Medical Relief every publicity in my power, and, for this purpose, I note down accurately the various items, so as to enable me to do so with precision.

I am ready to take an oath as to the correctness of the tables I send you, as the work has been entirely performed by myself, and no person but myself has made an entry in my book. I have met with the greatest insult from the Board of Guardians of this Union; but that will not cause my spirits to flag, nor, if my health be spared, will it prevent a periodical full exposure of the way in which the Medical relief of the poor is made to fall where it was never intended, at least I hope so, viz., on the shoulders of the hard-worked Medical Officer. Wishing you all vigour and success,

Believe me to remain, dear Sir, yours truly,
FREDERICK S. GARLICK.

5, Cheapside, Halifax, 6th July, 1849.

Excuse great haste; I will address you again in a few days.

To C. F. J. Lord, Esq., Hon. Sec. to the
Poor-law Medical Convention.

I may be permitted to state also, that during the past week, a very valuable Petition in favour of an improved system of Poor-law Medical Relief has been obtained through the exertion of Mr. George Cowley, of Winslow, and signed, in addition to the medical men, by all the clergy and magistrates of the district,—by the Chairman—two Vice-Chairmen, and several other Guardians of the Union Board, which was submitted to the Committee at their last meeting, previous to its being placed in the hands of Mr. Disraeli, the county member, for presentation, who it is hoped, in future, will further the objects of the Convention.

The Poor-law Medical Staff will ultimately owe its emancipation in a great degree to strenuous exertions similar to Mr. Cowley's and Mr. Garlick's—to exertions made by an honest, hearty troop; daily growing stronger, "Who never knew—when man to man is true—a fear,"—to exertions made, and in the spirit of the following well known lines:—

"Hereditary bondsmen! know ye not,
Who would be *free, themselves must burst their bonds*."

Deeply grateful for the assistance you have given our cause,

I am, Sir, your very obedient Servant,
CHARLES F. J. LORD, Hon. Secretary.

THE PRIZES AT ST. THOMAS'S HOSPITAL.

[To the Editor of the Medical Times.]

SIR,—We, the undersigned, were appointed by our fellow-students as a Committee to draw up an answer to an anonymous attack which appeared in the *Lancet* for the 23rd June, directed against the Institution with which we are connected. We accordingly wrote to the Editor of that Journal, emphatically denying the allegations of his Correspondent, and requesting the insertion of our communication; its receipt was acknowledged in the following Number, but no further notice has been taken of it. That he should admit into his columns, and thus appear to countenance, the scurrilous and libellous communication which purports to come from a St. Thomas's Student is, to us, a matter of surprise and regret, and it is still more so, that, departing from the spirit of his motto "Audi alteram partem," he should close his columns to our reply.

The Author's intention evidently is to injure the school and wound the feelings of the gentlemen connected with it.

In the first place, he strives to convey the impression that, owing to the friendship of Mr. Whitfield, the prizes were unjustly awarded to Mr. Money; and states, that he had reason to know beforehand to whom they would be adjudicated; and, to give his accusations the appearance of truth, acquaints us with his respect for that gentleman's talents and industry, and presents us with a copy of one of the examination papers, and informs us that he himself is an interested party.

The first statement is altogether incorrect. Previous to October last, Mr. Money and Mr. Whitfield were totally unacquainted with each other, and since that period the latter gentleman has enjoyed no more of Mr. Whitfield's friendship than every industrious student is likely to obtain.

The assertion that the prizes were unjustly awarded, and that the writer had a foreknowledge of the result, no gentleman can possibly believe. Surely the fair fame of the adjudicators is not to be tarnished by the imputations of any anonymous calumniator. The gentlemen alluded to are Drs. Leeson and Bennett, and Messrs. Le Gros Clark and Taylor, to whom must be added, as being on the Committee of Lecturers, Dr. Butler and Messrs. F. H. Green and Grainger, gentlemen whose moral worth is unquestioned and unquestionable.

The assertion that there were three questions only in each subject is equally incorrect, there being six in Materia Medica, Chemistry, and Anatomy severally.

The paragraphs concerning clinical lectures and clinical clerkships are false. The former have been given since November last, with scarcely a week's intermission; and the latter are only neglected by those ignorant of their value.

The remainder of the letter is so manifestly an attempt to injure and annoy the gentlemen who are mentioned, that we shall not condescend to reply to it.

In conclusion, Sir, we may state, that had the author endeavoured to improve what was amiss, and to eradicate what was wrong, we should never have risen in a body to deny our participation in his sentiments.

To root out error and reform abuses, though unpalatable to some, is a part that all must applaud; but under its semblance, anonymously, without an attempt at supporting the accusation, to undermine the character, and blacken the reputation of those who are unsullied by the breath of slander, or the imputation of dishonour, is an action at once ungentlemanly, cowardly, and villanous.

J. S. BRISTOWE.
LEONARD W. SEDGWICK.
CHARLES O'CALLOGHAN.
JULIUS WILES.

St. Thomas's Hospital, July 17, 1849.

MR. SKEY ON THE TREATMENT OF CHRONIC ULCERS WITH OPIUM.

[To the Editor of the Medical Times.]

SIR,—Some months since I was informed that an assault had been made by a Mr. Critchett on a somewhat favourite doctrine of mine, relative to the influence of opium in promoting the growth of healthy granulations.

In your last Number I learn that he has written a book on ulcers, advocating the old story of "supporting the vessels"—*more* Baynton and a host of followers down to Mr. Critchett.

With that part of his work I have nothing more to say, beyond the simple expression of my opinion, that to talk of *supporting the vessels* is unphysiological, and that *support* is not the principle on which good is effected. Here, at starting, then, it is my misfortune to differ from the author of the work on ulcers; but, however I regret the difference, I prefer the

candid acknowledgment of my dissent to the adoption of any mean, truckling, or indirect endeavour to impress the world at large with the idea that I am buying Mr. Critchett's favour and advocacy at the expense of truth; and I do trust that my professional character for independence is yet unstained.

Mr. Critchett finds no favour, in my opium doctrine, on which it is my misfortune again to differ from the author of the work on ulcers. As my opinions on this subject have been before the world some dozen years or more, and Mr. Critchett's opinions have been recently published, perhaps I might in justice claim the right to suggest that Mr. Critchett's opinions differ from mine rather than my opinion from his. However, I will not contest that point, but take it for granted, that your readers, if they have roused themselves to the level of the subject of our differences will naturally enough, after the decided expression of Mr. Critchett's disapprobation of my views place me on my defence.

Mr. Critchett asserts, that he, whom I take it for granted, has rendered himself master of the principle I advocate, viz., that the internal administration of opium will cause the growth of healthy granulations in a chronic ulcer, in which every other agent has hitherto failed,—Mr. Critchett, I say, asserts that he has tried the experiment in some thirty or forty cases, and *in no one instance has the result borne out my statement*,—in fact, that he has not only not seen the phenomenon I have described, but that he has seen that it does not occur. So that thus far Mr. Critchett is "competent, from his personal knowledge," to furnish not merely negative but positive evidence against me.

Now, as chronic ulcers are as plentiful as blackberries, and opium nearly as cheap; and, as I should be ashamed to do Mr. Critchett the wrong to suspect him ignorant of the character of a chronic ulcer, any more than I would shield myself from his attack, by acknowledging, in a cowardly way, that I, perhaps, was hardly *au fait* at chronic ulcer when I wrote my pamphlet; so it appears to me that an unintentional perversion of truth must exist somewhere to explain the discrepancy between us two rival authorities—if I may take the liberty to use the term "us."

However, my reply to Mr. Critchett is contained in the facts of the following case:—

In the summer of last year Mr. P., a gentleman residing in Montagu-square, a Governor of St. Bartholomew's Hospital, placed himself under my charge, (Mr. Critchett's book not having then been published,) with a large chronic ulcer on the calf of the right leg. Its margin was irregular and jagged, and was elevated at least one-third of an inch above the base of the ulcer, which base was hale and bloodless. This wound was about the size of a man's extended hand, including the fingers, or even larger. It had existed for, I think, seventeen years. All remedies had failed, and the cure had long been abandoned as hopeless.

I gave Mr. P. half a grain of opium night and morning. In three days he himself noticed the singular red colour of the entire margin of the ulcer, which in a week extended over the base. I rolled and strapped the limb; the entire sore consequent on its depressed surface being placed beyond the influence of the pressure.

Within two months that sore was reduced *to the size of half-a-crown*, and the *only remedy employed was half a grain of opium night amd morning*, which, by-the-bye, had a very beneficial influence on his health.

If any statement of this case be deemed insufficient, I will produce Mr. P. in court immediately on his return from St. Petersburgh, and he shall give his version both of the disease and of the cure, and I fancy he might do so not altogether unprofitably.

I cannot comprehend how any man of ordinary observation can be blind to the notorious influence of this valuable agent in the treatment of chronic ulcers of any description.

I have myself treated, I may say, hundreds of cases. I hear of its success on the Continent, I hear of it in the United States and Canada, and I know it has been successfully employed in Calcutta.

My pamphlet was translated into French shortly after its publication in 1834, by M. Mayor, of Lausanne, a gentleman of no mean pretension to professional repute, who, in a letter he wrote me, says, that "he was delighted with the principle, and should adopt it on every occasion where practicable."

My own field of observation has not been small, and I have, notwithstanding the denunciations of Mr. Critchett, adopted it uniformly for some eight years in the out-patient room at St. Bartholomew's Hospital, where an average of about 300 weekly patients furnishes me with occasional examples of chronic ulceration of the extremities.

Mr. Critchett's argument is put forth in so knock-me-down and off-hand a style that I really hesitate even now in believing that I have answered it. I confess I am desirous of wresting that small portion of the Surgical reputation of St. Bartholomew's Hospital that hangs on me from the contempt to which Mr. Critchett's criticisms would consign it; and if I knew in what direction to appeal for the returning confidence of the Profession, I would instantly move in the same.

The truth is, that I do not carry these ulcers about with me, but they are to be found at St. Bartholomew's Hospital, I know; and I could have imagined that hospitals down in the far east, as the Yankees say, had been not altogether without them.

Finally, Sir, I will barter my entire professional reputation against any such small portion of the reputation of Mr. Critchett as he thinks will balance it in value—that the indiscreet publication of his want of knowledge will, in the end, do good service to the cause he has so unhesitatingly denounced, and, indeed, I am not quite sure that such is not his own secret intention.

I am, Sir,

Your very obedient servant,

F. C. Skey.

Lower Grosvenor-street, July 16, 1849.

THE SKIN CONTROVERSY. BRANDY AND SALT IN SKIN COMPLAINTS.

[To the Editor of the Medical Times.]

Sir,—This is certainly the age of Brass, Nostrums, and Specifics; for no Practitioner seems complete, when starting in life, without a "specific" for one or all complaints that flesh is heir to. Now, Sir, although I have myself no faith whatever in "universal remedies," because they appear to me alike at variance with the principles of science, honesty, and common sense, still there is a remedy for skin complaints which I have found to be attended with such surprising success, that I wish to communicate it, through your pages, to the Profession, and that remedy is simply—Brandy and Salt.

The reader may, perhaps, smile at the ingredients; but for that I care little,—Galileo was smiled at first, and persecuted afterwards,—for I know that I am conferring a boon upon the Profession, and on suffering humanity, which will be duly appreciated in time. I have tried all the usual skin remedies, including arsenic, cantharides, corrosive sublimate, prussic acid, oxalic acid, internally; and fumigations, lotions, and ointments of all kinds, externally. The result is, that I failed oftener than I succeeded; and in two cases the patient had a narrow escape.

I have no wish to enter the lists with such able Practitioners as Messrs. Innis, Walker, and Hunt; but it appears to me, the error these gentlemen fall into is in recommending the same remedy for a variety of complaints quite opposite in their nature; and nothing can be more empirical than that of attempting to cure a constitutional disease by local applications, in whatever form they may be administered. I, therefore, think the merit of those remedies exaggerated.

From a consideration of all those circumstances, and an anxious desire to assist, however humbly, in rescuing this branch of the Profession from the quacks, into whose hands it is fast falling, I have, for several years past, devoted my best attention to an experimental inquiry into the nature and treatment of skin complaints. I have ample opportunity here for studying those diseases in every shape and form, for I will back Gravesend against any town of its size for cutaneous eruptions. It is not the fault of the climate, for a healthier place there cannot be; but it is entirely owing to the gorging, cramming, and guzzling propensities of the cockney visitors in the summer. My patients invariably commence the instant they leave London-bridge, and, during the entire voyage, men, women, and children, indiscriminately seem eating for a wager. To consume the greatest quantity of stuff in the shortest possible space of time, seems to them the *summum bonum* of life. The swing, rocking-horse, and merry-go-round, on Windmill-hill, completes the business. The young ones, if they escape convulsions, are sure to take the pip; and the old ones the surfeit, or some other cutaneous abomination.

These, Sir, are the kind of patients I have to deal with, and my practice is this: As soon as they fairly sicken, (which is generally the day following the churning at Windmill Hill, for by this time all the humours are vitiated and in an acrid state,) I immediately prescribe four ounces of common salt, dissolved in a pint of brandy, twenty-five over proof, two ounces to be taken every half-hour until it produces such a fermentation in the blood, that all the vicious humours are destroyed by a species of internal combustion, or else driven out of the body by force of the internal heat. Sometimes the skin becomes as red as a boiled lobster, but this is a good sign; for once I get the enemy into that condition and situation, I soon reduce him by heroic doses of sulphur and cream of tartar There is no danger of killing or poisoning the patient by my plan.

I am not one of those who are always crying out "There is nothing like leather!" but I think a rational treatment like mine, based as it is on scientific principles, is entitled to take precedence over a host of those puffing nostrums which are so much in fashion just now. At all events, I can challenge competition with any other skin practitioner. My remedy is not recommended for all and sundry diseases of the skin, and, therefore, has no pretensions to be a "universal remedy." Its beneficial effects are confined to one section of those complaints, being chiefly developed in the Gravesend eruptions.

Now, Sir, it appears to me, that all diseases are not alike in all places; but whether it is the difference of climate or mode of living, that causes the variation, I cannot pretend to say. However, I am of opinion that the science of skin diseases and all other cutaneous affections, can be materially advanced by a division of labour. For example, if Mr. Innis were to confine himself to the radius of a mile from St. Giles's; Mr. Hunt to Herne Bay, from the Lower Reach to North Foreland; and myself to Gravesend, including Rosherville and Tivoli, I think, Sir, that by comparing notes, after due experience, we might produce something beyond all risk of reproach for quackery or hasty conclusions. But as the subject now stands, it appears to me to approach nearer to the science of humbug than to any branch of a legitimate science, and that every nostrum has its turn as every dog has his day.

From this view, however, I would exclude my own method, because it is based on scientific principles, has no pretension to be a universal remedy, and is peculiarly suited to the idiosyncrasies of my patients, as well as to the *genius loci* where it is prescribed.

I am, Sir, your obedient servant,

J. O. Brown.

Gravesend, July 10, 1849.

P.S. I have a work in the Press, giving a detailed explanation of my views and treatment, with numerous cases, which I hope soon to have the pleasure of forwarding to you.—J. O. B.

[We owe thanks to our unknown Correspondent for the shaft of ridicule he has launched against the host of skin doctors, who like locusts cover the land. These people have really become a pest to the respectable members of the Profession. One displays, to catch the eye, a series of drawings of elegant ladies and gentlemen, only rendered more attractive by their afflictions, and hopes by these pretty pictures to *draw* the public gently to himself; another seeks to affright the sufferers by hideous representations (skin bogies) of what they may become if they neglect to consult him; and when mamma's eye rests on her cherub Charlie, "the curly-headed boy," and then glances at the frightful figure which she is told he may one day resemble, she is *driven* to apply to *the* man who says he can avert the threatened evil. Another, still more culpable, strives, by loud shouting, to fix the attention of the people. Thus each, the representative of a class, stands, with his "little book of nonsense" in one hand, and his big bottle of specific in the other, calling to the gullible public, as the cook did to the ducks, "Come and be killed, come and be killed." The simple folk, hearing the loud shouting, and very imperfectly comprehending the language used, and seeing the book and the bottle, throng the doors of the impostor, and are fleeced as they deserve.—Ed. *Medical Times.*]

NITRATE OF SILVER IN QUINSEY.

[To the Editor of the Medical Times.]

Sir,—I shall feel obliged by your inserting the following remarks on quinsey, the treatment of which disease has hitherto been doubtful and unsatisfactory in the extreme, leeches, gargles, scarifications, and all the usual plans so abundantly recommended by both ancient and modern authors having been tried over and over again, with such uncertain power, that the chances of preventing suppuration were mostly hopeless. It is now five years since I adopted my present mode of treatment, and with unerring success. It is simply to apply a strong solution of nitrate of silver, 40 gr. to ℥i., by means of a large camel-hair brush, taking care to touch every part of the inflamed surface. This I repeat every eight or twelve

hours, seldom having occasion for more than two applications: an aperient had better be given at the same time.

So certain is the cure, that I never hesitate to assure my patient that the disease is quite in my power, and cannot, by any possibility, increase. I have never, since I first commenced this plan, seen a tonsil suppurate, and I use it in all stages, and often when suppuration seems inevitable.*

The first case in which I used it was a Mr. M——s, in this town, who had had quinsey before, with suppuration, and, dreading a similar result, he earnestly entreated me to try and prevent it, if I possibly could. I succeeded—much to his delight—and four times since it has returned, and as often been arrested. Once when, being out of town, (two years ago,) another surgeon was called in, and on my patient telling him the remedy with which I always stayed it, he immediately took out his caustic case, and so freely used it, that a second application was not required. I am induced to give this *never-failing* remedy additional publicity. I say *additional*, because Dr. Corfe has already spoken so highly of it in his invaluable portraits of diseases as having been first used in the Middlesex by Dr. Hawkins, in whose hands it has always been successful. I do not publish the result of my practice with any idea of claiming "priority." I know not how long Dr. Hawkins has used it; and, indeed, should not have known it at all had not Dr. Corfe given it to the world in the before-mentioned admirable paper. I truly hope that every practitioner who may see this report will give it a fair trial; indeed, no one is justified in withholding from his patient such a certain means of escape from a painful malady;—*one trial* I claim.

I remain, Sir, yours obediently,

Haverfordwest, July 14, 1849. J. D. Brown.

BOILED GROUND RICE AND BRANDY A VALUABLE DIET FOR ARRESTING VOMITING.

[To the Editor of the Medical Times.]

Sir,—It may not be generally known that ground rice boiled with water*, and a tablespoonful or two of brandy afterwards, added with a little sugar, is capable of arresting perpetual vomiting; I have known it taken with success when other remedial agents have failed. A teaspoonful of the rice thus prepared should be taken, and, if rejected, a second or third must be followed immediately after, when the desired effect will be produced. The patient must be kept upon this diet for a few days, avoiding every other article of food. I have never known the rice diet used in cases of cholera; but I am of opinion it may be found useful in the primary stage of the disease when vomiting commences.

If you consider this hint worth the attention of your readers at this particular period, you will oblige by allowing a small space in the *Medical Times*.

I am, Sir, your obedient servant,

July 14, 1849. H. O.

MEDICAL EDUCATION.

[To the Editor of the Medical Times.]

Sir,—There are so many grievances connected with the Profession apparent to me, that with your permission I will from time to time draw the attention of your readers to a few observations which I propose to make on them. It being best to begin with the foundation on all occasions my first hits will be on the subject of Medical Education. Having been a student I may, of course, be expected to know something of the matter; and, now that the period of my studentship has long since passed, I have had time to consider whether the views I entertained in my pupilage are at all approaching to truth.

A correspondent in your Journal (more metaphysical than myself), some time ago, gave his opinions on this matter; but whether what he said had any effect, or is likely to have, I am unable to speak.† Your Correspondent asked the following questions:—"First. What preliminary education, moral and intellectual, is most suitable? A full answer to this question would take up too much space, but it may be just necessary to remark, that as regards morality and intellectual acquirements, youths intended for the Profession ought not by any means to be short. The first ought to be inculcated by parents, the second may be partly instilled by parents, but chiefly by the teachers under whom they are placed. I might considerably dilate on the defective system of educating youths at the present day; but I shall be brief. First. I would contend that children are put too early to school. A child of mine should not go to school before it was eight or nine years of age. Its strength is required before that age for growth. Books before then are a burden, and are seldom understood. The first three years after the age I have named ought to be devoted to the study of plain English, and, after that period, the line of study ought to consist of languages and some of the sciences.

The method of teaching is greatly defective. Pupils ought to be made to understand by the teacher himself explaining; for at present they are left to overcome every difficulty by "their own sharpness," and, if they do not succeed, as few do, all that they get is a good thrashing with the horsewhip. I, for my part, when at school, felt the ill effects of this system, and, I am sorry to say, suffer from it at present, as doubtless many others.

A youth is unable to gain a proper knowledge of the languages and different matters in his preliminary education before he is seventeen, unless he be extraordinarily quick. I would say, therefore, that it ought to be made a rule that no one ought to enter the Profession under that age, and that he be kept at school till then.

Second. "What kind of education is most suitable, preparatory to engaging in the practice of our Profession?"

In order to divest all subsequent fear from the minds of students, I think that they ought to undergo a classical examination before they commence the study of any subject connected with the Profession. Having obtained a certificate to this effect, the next thing to be taken into consideration is an apprenticeship. I, with many others, am, however, averse to a five year's apprenticeship. But I think a short one of two years would be sufficient, with a view of learning the nature of drugs and the compounding of medicines. A certificate of moral character and diligence may then be given by the master, if the pupil is deserving. Without this certificate he ought not to be allowed to attend lectures or hospital practice. In a subsequent letter I propose to show that it would be the best to give up dispensing to the chemists; surgeons, &c., prescribing and charging for advice only.

To some, such a plan may appear injurious to the Profession; but I think there are many reasons in favour. It would raise the respectability of the Profession; relieve it of being looked on as a trade. It would make the members of it less numerous. Though at first it would take away the emoluments obtained from apprenticeship fees, yet, from the circumstance of the Profession being less numerous, the emoluments would be made up by fees from patients.

These suggestions will derive strength in favour of adoption, when it is recollected that many enter the Profession who have never received scarcely any classical education, at all. Many cases I remember; and those persons who have succeeded under such circumstances have had considerable difficulties to contend with, in order to prepare for examination at the Hall, and that preparation is often of no utility, for the candidates are apt subsequently to forget all they have learned for the time. That this is the case with the majority, I will not pretend to say; I do not believe it is; but, at the same time, it is necessary that all who are in the Profession be known to possess classical knowledge, and that their general education has been sound. As respects the recent improvements made in the curricula of the College and Hall, I do not hesitate to say, that they are far better than formerly. When I was a student, it was impossible for me to attend to all the subjects at once. The first year I was obliged to neglect both anatomy and physiology in order to learn materia medica and chemistry. The second year I studied anatomy, physiology, and a little midwifery; the third year, anatomy, surgery, and practice of physic. The summer session, of course, I had more time to study the subjects prescribed. When, however, I had concluded my studentship, though I had studied several hours a-day for the whole period of three years, I was lamentably deficient, though I cannot but acknowledge I had learned a great deal, and was looked on by many of my fellow-students as knowing something, *i. e.*, not altogether ignorant of my profession. With the regulations as at present prescribed, I think it would be advantageous to add the study of comparative anatomy and natural history in the second summer. With a view, however, of amending the present regulations, it would be advantageous for the student to attend the materia medica and chemistry lectures during the time of apprenticeship, which I name to last two years. Such a plan would enable the student to devote more time to the study of the subjects prescribed, as well as a few others which might be added. My plan I will give in a tabular form, that it may be better understood:—

Periods for Attendance on Lectures.	Subjects.
Period of Apprenticeship.	Natural Philosophy, two Courses on Materia Medica and Chemistry, Theoretical and Practical.
First Summer Session	Botany, Natural History, Midwifery.
First Winter Session	Anatomy, Physiology.
Second Summer Session	Midwifery, Comparative Anatomy.
Second Winter Session ..	Anatomy, Physiology, Surgery, and Practice of Physic.
Third Summer Session ..	Toxicology, Medical Jurisprudence, and Psychology.
Third Winter Session....	Anatomy, Physiology, Surgery, and Practice of Physic.

Thus it will be seen by extending the time for study from three years to five, a great advantage would be gained, and more subjects might be included in the regulations.

Attendance at the hospitals might remain as at present; but it ought to be a regulation, that courses of lectures be delivered on clinical medicine and surgery, and that each pupil be required to dress cases under the superintendence of the visiting surgeon.

As respects the system of prize-giving, I must confess I have considerable objection. I do not know that it is of any practical utility, it being well-known that many who gain such honours are not always deserving. It is likely to engender a false degree of pride, besides not unfrequently causes unpleasantness among the students themselves. In subsequent years, they are little thought of. As respects certificates of honour being awarded to the most diligent and deserving pupils, I think that they might be continued with advantage, as they are likely to prove the best passports to future success, with a good knowledge of the Profession.

I have now given a number of propositions for the consideration of your readers, which, I think, might be readily agreed to and adopted. I have not undertaken to defend all my arguments, as, by so doing, I should take up too much of your valuable space. I trust, therefore, no defence will be required. Taking leave of you for the present,

I am, Sir, yours respectfully,

A Reformer of Abuses.

[We so far agree with a "Reformer of Abuses," that we think some improvement might be made in the regulations of the Medical Corporations—the present Parliamentary law respecting our Profession even remaining unaltered. Few, we think, besides our Correspondent, could be found to advocate an apprenticeship for two years, to be served in a chemist's shop. Moreover, the repeal of the Apothecaries' Act, and the establishment of a new Medical Institution, would be required before his suggestions could be carried into effect. We hope to be able to recur to this important subject next week.—Ed. *Medical Times*.]

MEDICAL RELIEF OF THE POOR.

[To the Editor of the Medical Times.]

Sir,—Some time ago, the newspapers reported a painful case of destitution and suffering, which had failed to obtain proper attention from the parish authorities and which called forth the following unjust and injudicious comment, addressed to the Editor of a periodical publication:—

"Sir,—Is it not enough to make one's heart bleed for the poor and miserable people of this country, when they are subject to the hard-hearted mercy of man, similar to that reported in the *Times*? 'This is an evil under the sun.' Whence does it spring? To what source may this murderous system be traced? One Surgeon will not act,—another will not act,—in the greatest hour of need. In every other business competition is allowed; but, in the Medical Profession, the laws of the land interfere with the wants and supply of the people, and, consequently, the people have to pay for the monopoly thus raised, and, at the same time, suffer the evil effects of that monopoly in physical suffering. Were the laws respecting medicine entirely repealed, the people have sufficient judgment to know where to apply in time of need;

* Milk must not be used on account of its turning acid.

† *Medical Times*, April 22, 1848.

and, not only so, the law of nature (the love of one's own life) would lead them to obtain medical relief from the right sources,—and surely men of knowledge, reputation, and experience, would not suffer from such an alteration: nor is it likely men will cease to acquire knowledge for the attainment of usefulness towards mankind. Until all medical laws are cancelled, suffering and privation will be endured by the poor; for it is upon them the iniquitous system presses most heavily. In one Union, close at hand, they only grant *loans* for medical relief, to be repayed out of their wages after recovery. Could we inquire into the working of the system, what misery would meet the eye! Shall the poor of England always suffer?

"Yours, obligingly,
"A FRIEND TO THE POOR."

Is our "obliging" friend in jest or in earnest, when he recommends the abolition of all medical laws? He is certainly joking, when he says, "Were the laws respecting medicine entirely repealed, the people (would) have sufficient judgment to know where to apply in time of need." The "judgment" of people in medical cases. For illustrations of it, look to the sale of quack medicines, which are advertised to cure all kinds of incurable complaints, and to remove all sorts of irremovable symptoms. Look to the popularity of ignorant empirics, and illiterate "bone-setters," and female professors of physic. Not long ago I heard a self-constituted physician in petticoats recommend "a dose of castor-oil," as it would "grease the nerves." Look, also, at the resort for medical advice to chemists; whose business is, not to *prescribe* medicines, but to *compound* them; who have seldom attended any lectures but those on Chemistry, or read any professional books except the Pharmacopœia; who, of course, prescribe for symptoms, though they may arise from opposite causes, with whom headach, for instance, is *headach*; whether inflammatory, rheumatic, or nervous; whether arising from too *great* a supply of blood to the brain, or too *little*; or from sympathy with the stomach, or some other organ. Does our "friend" seriously propose to hand us over to the tender mercies of every self-dubbed "doctor", who may choose to put a brass-plate on his door, or a coloured bottle in his window? He is certainly not serious when he talks about "monopoly," while medical Practitioners so abound in every corner of the land, as to be eating each other up. If he resides in some fortunate spot where doctors are not more numerous than patients, he has only to publish the name of that El Dorado; and he may depend on a whole cargo of Hall—and College—gentlemen, by an express train. He is also very facetious, or very ignorant,—I will take for granted the former,—when he talks about want of "competition" among medical men. Want of competition! What, but *excess* of competition induces a medical man to contract for attending many thousand paupers, at so many pence per head, and scattered more miles than he can well gallop over? "In every other business competition is allowed." Indeed! Have clergymen, and lawyers, and naval officers, no examination to undergo? Are our limbs and our lives to be less carefully guarded than our legal rights? "Were the laws respecting medicine entirely repealed, the law of nature (the love of one's own life), would lead people to obtain medical relief from the right sources." What has "the love of life" to do with judging of a doctor's skill? And how do "medical laws" interfere with it? What the law requires is, that the poor shall not be committed to the care of any man who has not given proof of his competency, by passing an examination before a Medical Board. Were this check abolished, how loud would be the outcry against trusting the poor to incompetent pretenders! The case alluded to was sufficiently painful; but our "obliging" friend's remarks on "the *hard-hearted mercy* of man, similar to that reported in the *Times* (a curious kind of "mercy" to be *reported* indeed!) are quite beside the mark. So far as appeared from the newspapers—and I know nothing of the case from any other source—the conduct of the medical men was not in question at all. The gentleman whose duty it was to attend, does not appear to have known that his services were required. No doubt he would have rendered them had he received proper intimation, which the Relieving Officer ought to have sent. As to the other medical man, having already (in the shape of Poor-rates) paid his quota towards providing proper attendance for the poor woman, it would have been unreasonable to exact his time and skill (which are his stock-in-trade) into the bargain, unless the proper medical officer had been out of the way. In cases of emergency, medical men have never been found backward; but they are the only persons expected to serve the public for nothing.

"In one Union, they only grant *loans* for medical relief, to be repayed out of *their* [*the*] wages, after recovery." A most excellent plan! What right-minded poor man, in the receipt of wages, would not rather pay his own expenses, by easy instalments, than be indebted to the hand of charity? Are the poor to be degraded into paupers? Does their "friend" wish his *protegés* to become parish mendicants? Ought we not to regard their principles as well as their pockets?

But what is our Solomon's remedy for the neglect of a relieving officer, and the evils of pauperism? "Until all medical laws are cancelled, suffering and privation will be endured by the poor." This, then, is his panacea: "Cancel all medical laws." Do away with all tests of qualification, and commit the broken bones of the poor to men who never studied anatomy; and let them be bled by "barber surgeons," who know not the difference between an artery and a vein. This is the profoundly sapient regulation, at which suffering and privation are to take their everlasting flight! Well may the poor exclaim, "Save us from our *friends!*"

"Shall the poor always suffer?" More or less, it is to be feared, poverty will always be attended with suffering; but any reasonable plan for its mitigation ought to be adopted. Several millions are devoted to that object every year. I hope "a friend to the poor" never grumbles at the poor-rates! "The public have to pay for that monopoly." To those who know the miserable pittance dealt out to Union surgeons, this talk of payment is simp[illegible] If our "friend" will "obligingly exert [illegible] to procure for the poor a sufficient number of medical attendants, at a sufficient salary, he will prove his friendship to the poor, and "oblige" his readers much more effectually than by writing incoherent letters on a wrong scent.

I would not be understood to deny, that the machinery at present in use may require alteration. The suffering poor ought not to be dependent on the caprice of a relieving officer. Medical men, when they see occasion, should be allowed to act, and to charge the expense to the parish or Union.

There is another measure, which, though it would not provide for unforeseen contingencies or unavoidable misfortunes, would greatly lessen the number of the poor, and the amount of their suffering. At this plan I will venture to hint, though at the risk of being denounced as a hard-hearted political economist. *Let no one plunge into the expenses of a family, unless with a fair prospect of paying his way.* I remember attending (gratuitously) a woman in her first confinement, and in circumstances of great destitution. On inquiry she confessed that, on the day of their marriage, they "had not money enough to buy a supper."

Not a fortnight ago, a young woman applied to a medical charity, on account of a sick husband, who had been out of work *four months*, and to whom she had been married *three weeks*. At present they are living on their parents; when the latter are tired, they must come on the poor-rates. In due time, no doubt,—should it be with the husband in months to come, as it has been in months that are past,—the parish will have to pay a surgeon for helping into the world an additional little mouth, and all three must be supplied with food in health, and physic in sickness, at the expense of "their friends and the public in general." "Shall the *poor rate-payers* of England always suffer?"

N. ROGERS, M.D.

UNIVERSITY DEGREES.

[To the Editor of the Medical Times.]

SIR,—It is a pity that the gentleman whose letter, under the above heading, appears in the *Medical Times* of this week, did not learn something more accurately about the British Universities, and understand his subject better before he sat down to "make remarks" for the guidance of general Practitioners about to take the title of M.D.

It is quite true for him, however, that Oxford and Cambridge are closed against the sudden elevation of such aspirants to the "*highest honours of the Profession.*"

The expenses of the education, or the length of time in residence in those Universities, do not form so great a barrier to the taking of medical degrees there as the gentleman seems to imagine; and, as I believe that he partakes of an ignorance upon this subject that is very prevalent in society, with respect to the system and expense of education in the English Universities, I would avail myself, with your permission, of this opportunity to set him and many of your readers right in that respect.

The expenses of education in Oxford and Cambridge, so far as the College and University fees go, are very moderate indeed; much more so than in many of our private, and than in any of the public schools. With respect to the education, let us say at Cambridge, for the degree of M.B., it is very limited, and costs but little; and, as to time there, the student may *go out* in medicine within three years. To *go out* in medicine, or in law, is what is called, in the University, *degrading*, the degree being inferior to the A.B. degree. To go out in medicine, for instance, the student has no occasion whatever for any knowledge of mathematics or physics, and the only examination, of a preliminary nature, that he passes in the University, is that called the *Little-go*, or previous examination, which is held in the second March after going into residence.

This examination consists simply in translating passages in Latin and Greek books, and the students have notice of the subjects twelve months before the examination comes on. That is the only test of classical attainment that the candidate for the degree of M.B. need undergo; and that, I can assure you, Sir, is not very trying.

Thus, as to the examination for the medical degree, he has to do but with one examiner, the Regius Professor of Medicine,—a circumstance which, in itself, stamps the value of the degree as a testimonial entitling the holder to the confidence of the public as a Medical Practitioner. This, however, is, in the estimation of your correspondent, the *beau ideal* of a Medical degree; but the dear gentleman was not in the secret; he knew nothing about it, and, with the dust in his eyes, ranked it above the degree of his own *Alma Mater*.

"The University of London," he says, "takes its place next (to Oxford and Cambridge) in consequence of the *difficulty of its examinations.*" Here is an inconsistency, for he awards the first rank to the degree that is got, I may say, without any examination at all, or, at least, that which *one man*, perhaps a clever man, perhaps a heavy, old, stupid man, conducts and institutes; for, be it recollected, that a Regius Professorship is not always given to the brightest light of the Profession. It is very well known, that, with the M.D. degree thus got, the holder has the legal right to practise as a *Doctor* in every part of England, except within the precincts of the University, and in and within seven miles of London, where the College of Physicians has jurisdiction. Upon ten years' standing, the Bachelor takes his degree of Doctor as a matter of course on *paying for it*, as there is nothing for nothing in Universities. He has not, however, to undergo any further examination or any trial beyond a laughable monkish ceremony, descended from the mediæval customs.

Now, accompanying our author step by step, we come to the University of Edinburgh, long famed as the most renowned school of medicine in Great Britain, and the *Alma Mata* of the greatest number of the greatest physicians and medical philosophers that have adorned the Profession and enriched its sciences. Edinburgh, however, is in bad odour with your Correspondent, the principal object of whose letter would appear to be to run down that great university, and elevate, at its expense, Aberdeen and St. Andrews.

I do not presume to come forward as the champion of that seat of medical learning and philosophy. It wants no such aid; nor is it necessary, at all events on the present occasion. Your Correspondent, if honest, is as ignorant of the nature of the system of education at Edinburgh as he is of that at Cambridge or at Oxford; he would make your readers believe, that, upon *one* year's residence, the degree of M.D. may be taken in Edinburgh. This is a gross misrepresentation, made, no doubt, in the absence of accurate knowledge on the subject, and, perhaps, upon some incredible hearsay evidence.

The University of Edinburgh requires from candidates for the degree of M.D. proofs of having devoted *four whole years* to the exclusive study of medicine, one year of which may be passed in a private school of reputation. The other three years must be passed in one or more universities having a regularly organised Faculty of Medicine. One of these three years must be passed in Edinburgh, which is a very salutary regulation.

Then, as to the examinations, it is to be recollected that they are arranged as to subjects and extent by a numerous body of Professors, of European reputation. These examinations are wisely adapted to the existing state of science and to the wants of the public for medical attendants of the highest order.

The candidate for the degree has to pass through the hands of thirteen Examiners, each a Professor, in the habit of teaching, and accustomed to see at a glance the mental qualities of the respondent. Great discretion must necessarily be used by such a body of men in granting the degree or rejecting the candidate. In the exercise of such a discretion, men of but slender mental endowments are allowed to pass through and get degrees in every university; and possibly, some men have the M.D. degree of Edinburgh who may have appeared as "fools" in the eyes of your learned and erudite Correspondent. Between the first wrangler in Cambridge and the last man in the *poll* there is an immeasurable distance in point of mental power and attainments; yet they are both of the same degree in the university,—both Bachelors of Arts. It would not do to reject the last man in the *poll* because he was not on a par in knowledge with the first wrangler, or even with the man next above him. The Examiners in all universities settle upon a minimum amount of attainment for the degree and that must be adapted to the powers of men of ordinary mental capacity and industry.

Thus, as to Glasgow, Aberdeen, and St. Andrews. Your Correspondent evidently knows but little about these Universities. Glasgow is a complete, well-organized University, and has always sustained a high character. It is, however, easier to get the degree of M.D. at Glasgow than at Edinburgh; and it is no uncommon thing for gentlemen plucked in the latter University, to go to Glasgow, Aberdeen, or St. Andrew's, and pass without delay or difficulty. Notwithstanding what your Correspondent says, Aberdeen is a truant in granting degrees. Even according to what he himself states, every *Apothecary* or *General Practitioner, of five years' standing*, is eligible for the degree there; and when a University opens its doors in that way to grant degrees to strangers, not its own alumni, *it is all in my eye* to say that the examinations are stringent, or at all calculated to puzzle or perplex the man who has come with his money to buy an M.D. degree.

St. Andrew's is a decayed University, an old trader in degrees. All sorts of quacks used to get degrees at St. Andrews without even showing themselves there. Since the late reformations in that University and at Aberdeen, the candidate for the degree must pass an examination. The Examiners are chiefly practitioners in Edinburgh, who are paid for going to St. Andrew's, at stated periods, to examine *and pass* the candidates. It is palpably a money-getting business, and the Examiners know better than to reject the candidates, for doing so would be *refusing money*, a habit to which our friends in Scotland are not much addicted. There is, no doubt, a rivalry in the Scotch Universities. Glasgow undersells Edinburgh, and Aberdeen undersells Glasgow. St. Andrew's is the cheapest of all; and it is to St. Andrew's, therefore, that I would recommend those gentlemen who yearn for the title of Doctor to repair for the Degree. It is positively a better Degree as a testimonial of competency to practise than the Degree of Oxford or Cambridge, and as ninety-nine persons out of every hundred value the Doctor for something extrinsic of his diploma, the cheaper and easier he gets his title the better.

But, Sir, it is much to be lamented that this rivalry should exist,—that there is not uniformity of education and of examinations.

The question of Medical Reform is one, however, of too much difficulty, it appears, to be successfully grappled with by even a Minister of State.

Oxford, Cambridge, Aberdeen, and St. Andrew's, ought to be prohibited from granting Medical Degrees, because they have no, or insufficient, machinery for teaching or for examining. An exception, perhaps, may be claimed for Aberdeen, because the population there is considerable, with a large Hospital and two ancient Colleges.

But, as a School of Medicine, Aberdeen, with all her ancient *prestige*, is inferior to Bristol, Liverpool, Birmingham, Manchester, and other large towns. It would be better to limit the power of granting Degrees to the three Metropolitan Universities, London, Dublin, and Edinburgh, and to place them under the control of a Government Board of Public Instruction, that would enforce uniformity of education and of examination. The four Academies of France, each in itself a perfect University, are, in that way, under the management of a Board, with the Minister of Public Instruction at its head, forming, in the *ensemble*, the University of France. We can hardly hope for such a Medical Reform here, for, unfortunately, there is too much private interest concerned; and to propose any interference with Oxford or Cambridge would be fatal to any project; yet no project can be useful without depriving these two Universities of a power that they cannot exercise but injuriously.

I am, Sir,
Your Constant Reader,
M.D. ET CHIRURGUS.

London, July 8, 1849.

UNIVERSITY DEGREES.

[To the Editor of the Medical Times.]

SIR,—I can assure Dr. Lees, of Ashton-under-Lyne, that my only object in writing to you on the claims of the various British Universities, was not for the purpose of puffing St. Andrew's and disparaging Edinburgh, but to stimulate, in every way in my power, the present movement of graduating in some university by general practitioners. I have the interest of my class at heart, and know of nothing more likely to promote their respectability.

However, I have no doubt that the Profession will agree with me, when I say that a weaker reply to my remarks on Edinburgh could not be penned than that of the worthy Doctor's. Still, I like to see a man stand up for his *alma mater* to the best of his ability. There is, I believe, no second opinion as to the superiority of the London degree. In what particular point does it excel? Is it not in its examination? Yet Dr. Lees says examination is no test! Two men (brothers, perhaps) study at the same college, under the same Professors; one excels the other in intellect, in industry, and renders himself fit in every way for the practice of his profession; the other, on the contrary, is his opposite. Is it not by examination alone you can find the difference? Would you give both a merely nominal examination, and send them forth to the world, one to cure, the other to kill? Is it because Alison, Christison, and Syme, fill the Professors' Chairs with distinction, all their pupils must be first-rate men? that they can make the stupid man clever, the lazy man industrious, and a good physician of the man intended by nature for a ploughman? Sir, Dr. Lees and your humble correspondent are at issue; let the Profession decide. My argument is, that examination *alone* is the only true test of qualification. It is no reason, because a man has spent four years in Edinburgh, he must know his profession. I also assert, that the examination at Aberdeen particularly, but even at St. Andrew's, is a more difficult, a more respectable, and more practical one, than that of Edinburgh or Glasgow. I fully admit to Dr. Lees that there are good number of very clever men, both in town and provinces, graduates of Edinburgh, who are an ornament to their Profession; but it would be a frightful state of things if, amongst such a numerous body, there were not some who distinguished themselves from the bulk. One swallow does not make a summer. I have met, during my life, a vast number of the graduates of all those colleges, and I am bound to say, and I say it without envy or ill-will to any men, I found the graduates of Edinburgh and Glasgow *generally* possessed of inferior attainments. I have no doubt, before many years, the majority of the practitioners of the three kingdoms will be graduates of some university, and if the Colleges of Aberdeen and St. Andrew's continue to throw open their halls, as they now do, to the general practitioners, make their examination equal to that of London, and publish that examination as London does, they will rise in public estimation, and leave their competitors of Edinburgh and Glasgow where they deserve to be, far behind.

I remain, Sir,
Your obedient servant,
A CANDIDATE FOR THE DEGREE OF M.D. AT LONDON UNIVERSITY, AND M.R.C.S.

THE CHIEF BARON AND THE LAW OF LUNACY.

[To the Editor of the Medical Times.]

SIR,—There is an old proverb which is too often forgotten: it begins "*Ne sutor.*" The Chief Baron lays down the law. Well, but he goes rather further, and gives what we may hope is his own private opinion. His knowledge would not have been thought the less, if it had remained private; for it certainly is a very remarkable one. Only picture to yourself, Sir, the decrease in the number of lunatics! Talk of gaol delivery, what would it be to an asylum delivery! Let us just imagine the Chief Baron invested with authority to liberate those whom he considered ought not to be confined. We should probably find that some one who considered himself King of England, certainly not a dangerous hallucination, would, if liberated, not hesitate to endeavour to appropriate Buckingham Palace, or insult the Queen, and, if thwarted, may even go further. Or some man may, having the fancy that he is always cold, set fire to a farm stack to warm himself; another, who is under the delusion that he is very like a whale, may, although considered quite harmless to himself or others, on a sudden, endeavour to perfect the resemblance by going under water, and very probably remain there too long. But enough; instances without number may be given where persons, who are, to every appearance, "not dangerous to themselves or to others," being liberated, may, by any sudden provocation, become murderers or suicides. It is to be hoped that the Lord Chief Baron may recall this hasty expression before it is too late; or, if it is still his opinion, that he may be induced to modify it very much before we have another such a case as "Nottidge *versus* Ripley."

I am, Sir,
Your obedient servant,

July 14th, 1849. W.

MEDICAL NEWS.

APOTHECARIES' HALL.—Names of gentlemen who passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, 12th July, 1849:—Robert Delafosse Shield, Clun, Salop; Alfred William Moore.

ROYAL COLLEGE OF SURGEONS.—The following gentlemen having undergone the necessary examinations for the diploma were admitted members of the College at the meeting of the Court of Examiners on the 13th inst.:—Messrs. Henry John Phillips, Kensington; Thomas Ellis, Balbriggan, county of Dublin; William Frederick Bassett, London; George King, Melksham, Wilts; Said Assaid, Syria; Charles James Morris, Glocester-terrace, Hyde-park; George Brown Turner, Horton, Gloucestershire; William Squire, Silsoe, Bedfordshire; George Hodson, Chester; William Hargreaves Manifold, Liverpool; George Anthony Kirsopp Lake, Teignmouth, Devon; Charles Henry Sinnock, Eastbourne, Sussex; and Henry William Hughes, Gawchmai, Anglesea. On the 16th inst.:—Messrs. John Albert Morris, St. James's-place; John Evelyn Crook, Northfleet, Kent; George Hymeneus Lovegrove, Gloucester; Thomas Arthur Finnimore, Harrow-road; William James Moore, Halesowen, Worcestershire; William Bradley, Preston, Lancashire; James William King, Dublin; Frederick Le Keur, London; and Philip William Govett, Plymouth.

THE FELLOWSHIP.—The Court of Examiners of the Royal College of Surgeons have just given notice of their intention to examine candidates for the Fellowship on Tuesday and Thursday, the 7th and 9th of August next; our advertisement columns will afford further information.

WAR OFFICE, July 13.—3rd Light Dragoons.—Assistant-Surgeon Vere Webb, from the 10th Foot, to be Assistant-Surgeon, vice Franklin, promoted on the Staff. 10th Foot.—Staff Assistant-Surgeon James Lewis Holloway to be Assistant-Surgeon, vice Webb, appointed to the 3rd Light Dragoons. Hospital Staff.—Staff-Surgeon of the Second-Class George Home to be Staff-Surgeon of the First-Class, vice James Moffit, M.D., who retires upon half pay; Assistant-Surgeon Henry Franklin, from the 3rd Light Dragoons, to be Staff-Surgeon of the Second-Class, vice Home, promoted; Acting Assistant-Surgeon John Duff, M.D., to be Staff Assistant-Surgeon, vice Holloway, appointed to the 10th Foot.

APPOINTMENT.—Mr. James Robinson has been appointed Surgeon-Dentist to His Royal Highness Prince Albert.

OBITUARY.—On the 12th instant, of rapid consumption, Mr. Maurice Dyte, of 44, Houndsditch, surgeon, in the 43rd year of his age.—At Southampton, on the 6th instant, aged 90, John Shadwell, Esq., M.D., Lord of the Manor of Horfield, near Bristol.

UNIVERSITY OF LONDON.—NEW CHARTER.—Her Majesty has granted to this University a new

Charter, which is likely to excite great interest and attention in the educational world. As our readers are doubtless aware, persons who have graduated for honours at Oxford and other Universities are sometimes compelled to refrain from taking a degree, owing to their conscientious objections to subscribe to the Thirty-nine Articles. By the new Charter, the Council will be empowered to confer the respective Degrees of Bachelor of Arts, Master of Arts, Bachelor of Laws, and Doctor of Laws on any persons who have graduated at Oxford, Cambridge, Durham, Trinity College, Dublin, or any other University in the kingdom. Another point in the new Charter which will be of great service, is that the Council may institute examinations for certificates of proficiency in any subject which they may think fit connected with the Sciences or Arts, such as Architecture, Civil Engineering, Chemistry, Botany, Geology, and Mineralogy; Zoology, Geography, Political and Physical, Navigation and Hydrography. The examination for certificates of proficiency was one of the original designs of the Council, which they were prevented from carrying out under the old charter.

Health of London during the week.—(From the Registrar-General's Return.)—The present return exhibits a serious increase in the mortality of London. The deaths, which in the previous week were 1070, have in the last amounted to 1369, and give an excess above the average of 361. This unfavourable result is produced by cholera and diarrhœa. The deaths from cholera were 339—more than double the mortality of the preceding week; those from diarrhœa and dysentery, which in the former week were 54, have rapidly increased to 100, which is more than in any corresponding week of five previous years. The total in the week from the three diseases is therefore 439, and makes an excess of 347 on the average of former years. The mortality from all other zymotic or epidemic diseases is 191, the average being 210; that from all sporadic diseases is 686, the average being 670. The progress of cholera in London is traced in the returns of the last six weeks, in which the numbers were successively 22, 42, 49, 124, 152, and 339; the progress of diarrhœa and dysentery in the same periods is shown as follows:—25, 38, 19, 33, 54, and 100. During these six weeks cholera was fatal to 425 males, and 303 females, of whom 387 died on the south side of the river, only 101 in the west and northern districts. Considerably more than one half of deaths from diarrhœa last week occurred under two years of age; whereas, of the 339 deaths from cholera, 192 occurred between the ages of 15 and 60. Last week 49 persons died of cholera in the district of Lambeth, 37 in Rotherhithe, and 23 in Bermondsey; but the epidemic now increases generally over the metropolitan districts. Hooping-cough, pneumonia, and phthisis are at present fatal to more than the usual number; the second, as well as the first, almost entirely to young persons. Typhus, measles, scarlatina, and smallpox are about the average, or fall considerably under it. Two men died of intemperance.

Sewers of the Metropolis.—Messrs. Austin and Smith, Consulting-Engineers and Assistant Surveyors to the Commissioners, have presented their Report:—

Belgrave-square.—These sewers are in a very unsatisfactory state, having above a foot of solid deposit. *Lowndes-place* has from one to two feet of deposit, (the smell is most horrible,) and the house-drains are nearly stopped. *Knightsbridge-green and Brompton-road* is in a dangerous state, and appears never to have been completed. From this manhole to the next, in the direction of Sloane-street, the deposit is so great, and the stench so strong, that one of the men came out in a fainting state.

Grosvenor-place.—This sewer, has from 9 to 14 inches of foul deposit. *Downing street* is nearly choked with filth.

Oxford-street.—The sewer on the north side, from Portman-street, westward, is in so ruinous a state as to be in danger of falling in; the arch is broken and depressed; the bottom full of steps and all kinds of inequalities, so that the sewer must be choked with deposit before it can have any discharge.

Whitehall-place has two or three feet depth of filthy deposit. *St. George's-square* has from one to two feet of putrid matter. *Pimlico-road* has deposit all along it, and in the immediate neighbourhood of Buckingham-palace this is 20 inches deep.

Upper and Lower Berkeley-street and Portman-square, North.—These sewers are in a ruinous condition, the side walls and crown having fallen in in various places. The invert is forced up, so that the breadth is only 9 inches where it was formerly 3 feet, and, for a distance of 1035 feet, the walls are abutting one against the other, and the arch without support for distances of 20 to 30 feet in length, and sometimes held up by a mere brick. Should this give way, the road will instantly follow. There is a deposit of 9 inches to 2 feet of rotten bricks, and so choked up that part of it could not be levelled. *Bryanstone-square.*—The arch of the sewer is in a very dangerous condition. In *Cavendish square* the sewer is very much decayed. In *Manchester-square* it is in a very dangerous condition.

Molyneux-street.—The lower part of this sewer is in danger of falling; the deposit is 2 feet in depth. In *Wimpole street*, for about 150 feet of this sewer, the bottom is washed away, and the side walls undermined.

Upper Brook-street.—Sewer in a crumbling state.

In *Curzon street.*—The springing walls are crushed in on both sides, at various places, for the distance of 150 feet; the rubbish lying about the sewer obstructing the discharge, and the deposit accumulating so fast that the sewer will shortly be choked up altogether.

Parliament-street.—The side walls for 200 feet, joining Bridge-street, are in a ruinous and crumbling condition. The north end is filled with deposit to the soffit, although the sewer is 5 feet 10 inches by 3 feet 2 inches. The smell is horrible. *Whitehall and Spring-gardens* contain from 3 feet to 4 feet of detritus deposit; and in *Hanover and Berkeley-squares* a considerable deposit exists, emitting most offensive effluvia. *Fitzroy-square.*—The invert of this sewer nearly all washed away.

We might continue our abstract from this Report, surveying the whole line of princely buildings of Belgravia on the one side, and Hyde Park Gardens on the other, *finding* only *one little* spot in Westminster district—namely, Seven Dials, in a satisfactory state!

Cholera in Dumfries.—In reference to letters we have lately published, from Drs. Grieve and Barker, of Dumfries, we think it right to transcribe from the *Monthly Journal* the following extract from a report by Dr. Barker, on cholera in Dumfries:—"My time of acting-physician at the Infirmary being from the 1st of September till the 1st of January, all the cases were under my charge except six, who were admitted subsequently to the latter date. I therefore feel called upon to correct the statements made in your *Journal* of this month, (May,) regarding the cholera in Dumfries. The greatest care was taken to keep the cholera patients separate from the others. As there was only one case of fever in the house, the four fever wards were set apart for the reception of cholera cases, and these wards occupy the whole of the upper story of the house: the solitary fever patient remained in one of them, but that could not be helped. When these upper wards were full, a large ward in the extreme wing was used; but all the other patients were removed from it to other wards, or dismissed. One of the surgical patients acted as night nurse for the cholera wards, for twelve or fourteen nights, when we had difficulty in procuring nurses. Another man presented himself in the waiting-room as an out-patient, but was not ailing much; when, as he was not afraid of the disease, I engaged him to come into the house as a nurse, which he did for payment, and acted as such so long as we had cholera patients. We had thus, during its continuance, five nurses for the cholera wards solely, one of whom died almost at the commencement of the epidemic of cholera, after twenty-three hours' illness, which she could scarcely have caught, as reported, by going up into the town, as there were, at that time, almost no cases of cholera in the town except in St. Michael's-street, and its immediate vicinity, at the southern end of which the Infirmary stands. At the time of her seizure, this was the principal nurse for the upper wards, and was, of course, the one who had most to do with the cholera cases. Of the officers of the Infirmary, Mr. M'Lauchlan, the acting surgeon, died on the 10th of December, as was reported to the Board of Health. As his time for attending the Infirmary was the same as mine, and as we met there every day, I asked him to go up the wards with me whenever he could spare as much time, which he frequently did, as he was much interested in the history of the disease; and he went round the wards with me within a week of his death. Thus we had one death out of nine resident medical men; none of the others had cholera I believe, but more than the half of them were confined to the house for some days at least, with the premonitory diarrhœa. Out of twelve medical men who were brought to Dumfries during the visitation, two were attacked very severely, of whom one died. Whilst I am perfectly sure that cholera spread in Dumfries as an epidemic, I am by no means sure that it did not spread also by contagion, more particularly when a number of cases were congregated together, without a due amount of proper ventilation. It may not be out of place to mention here, the appearance of cholera at Clarencefield, although I cannot, at the moment, find a paper to give me the correct dates. Clarencefield is a small village in the parish of Ruthwell, nine-and-a-half miles south-east from Dumfries, between which places a postman went regularly every second day. Having been in Dumfries in the beginning of December this postman was seized with cholera after reaching home, and died. The medical man of the parish, who attended him, and who had not been near Dumfries, was next seized and died. A female, who waited upon one or both of them, was also seized, but recovered. And an elderly lady, who had been near none of these three, was also seized with cholera, and recovered; however, a relative of hers, a medical gentleman returned from India, was living in the house with her, and he had been frequently visiting both the postman and the medical man during their illness, though he was not attacked himself. These facts are strong; they are well known to all the medical men here; and are apt to stagger the opinions of those who hold that the disease is not contagious, especially as in this instance there were no other cases, so that it would be difficult to consider the above an epidemic visitation."

The Late Mr. William Clift, F.R.S.—We have just seen an admirable likeness of this noblest work of God, an honest man." It will be recollected that Mr. Clift expired a few weeks since, when we gave a short biographical sketch of the deceased. Mr. Bosley, the artist, has lost no time in producing a very faithful and characteristic likeness of our lamented friend. Every member of the College ought to possess a copy of this portrait (taken from a Daguerreotype) of a man who served them so long and so faithfully as did Mr. Clift, the Conservator of the Hunterian Museum.

Clot-Bey, the celebrated Egyptian surgeon, has returned to France. Writing from Cairo to the Editor of the *Union Médicale*, he desires to inform his professional brethren, that he retires from his laborious post with the most flattering testimonials from the Viceroy, addressed *"au très honorable, très habile, très distingué Clot-Bey, notre ami fidèle."* He served twenty-five years in Egypt, and retires with a pension of 16,000 francs a year, (about 640*l.*,) with the half to his children, if he dies before they attain their majority.

A Speaking Mummy!—A Waterford physician, who tacks to his name A.M., M.B., T.C.D., has written to the *Mail*, published in that city, in reference to a mummy found in the guano at Ichaboe, some time since, and now exhibiting in Waterford. He concludes his letter by declaring, that the mummy *"speaks* for itself."

MORTALITY TABLE,
(Metropolis,)

For the Week ending Saturday, July 14, 1849.

Causes of Death.	Total.	Average of Five Summers.
All Causes	1369	1093
Specified Causes	1367	1005
Zymotic (or Epidemic, Endemic, and Contagious) Diseases	630	302
Sporadic Diseases:		
Dropsy, Cancer and other Diseases of uncertain or variable seat	42	44
Tubercular Diseases	204	190
Diseases of the brain, Spinal Marrow, Nerves, and Senses	106	119
Diseases of the Heart and Blood-vessels	28	29
Diseases of the Lungs, and of the other Organs of Respiration	108	81
Diseases of the Stomach, Liver, and other Organs of Digestion	60	76
Diseases of the Kidneys, &c.	10	11
Childbirth, Diseases of the Uterus, &c.	10	7
Rheumatism, Diseases of the Bones, Joints, &c.	7	7
Diseases of the Skin, Cellular Tissue, &c.	3	2
Malformations	3	3
Premature Birth and Debility	21	22
Atrophy	33	27
Age	36	41
Sudden	13	8
Violence, Privation, Cold, and Intemperance	53	36
Causes not Specified	2	3

The following is the number of Deaths occurring from some of the more important special causes:—

Apoplexy	21	Heart	28	Phthisis	116
Bronchitis ...	28	Hooping cough	37	Pneumonia ...	52
Cholera.........	339	Hydrocephalus	25	Scarlatina	25
Childbirth	4	Influenza		Small pox	0
Convulsions...	30	Liver	12	Stomach	2
Diarrhœa	89	Lungs	6	Teething	13
Dropsy	17	Measles	30	Typhus	49
Erysipelas ...	11	Paralysis	17	Uterus	4

BIRTHS AND DEATHS.

	Births.	Deaths.	Deaths over Births.
Males	634	702	68
Females	592	667	75
Total......	1226	1369	143

METEOROLOGY OF THE WEEK.

	Mean of Barometer.	Mean of Thermometer.	Dew Point. Diff.	Difference between the Mean Temperature of the day and the same day on an average of 7 years.	General Direction of Wind A.M.	General Direction of Wind P.M.	Amount of Horizontal Movement of the Air. Miles.	Rain in Inches.	Electricity
Sunday	29·972	71·4	59·1	+ 9·5	S.W.	W.	—	0·00	No electricity has been shown during the week.
Monday	30·135	67·5	49·9	+ 6·9	W.	N.N.E.	—	0·00	
Tuesday	30·225	65·5	49·7	+ 3·8	N.E.	E.N.E.	—	0·00	
Wednesday.	30·234	64·9	48·5	+ 3·9	E.	E.N.E.	—	0·00	
Thursday ...	30·191	66·1	51·5	+ 4·8	E.N.E.	N.E.	130	0·00	
Friday	30·101	67·3	54·2	+ 5·7	N.E.	E.N.E.	105	0·00	
Saturday ...	30·056	65·2	52·[illegible]	+ 3·1	N.N.E.	N.N.E.	55	0·00	
Means ...	30·129	66·8	52·3	+ 5·4	N.N.E.		Sum 290	Sum 0·00	

TO CORRESPONDENTS.

A Correspondent who signs himself "Philanthropist," asks us various questions in reference to an institution said to be established in London some years ago, and called the "Sanatorium." All that we can say in reference to it is, that it was introduced for persons whose station in life placed them above the reach of charity. We are not aware that the "Sanatorium" is at present in existence.

"Jabez."—The disease is universally acknowledged to be infectious, and the infecting distance is undoubtedly considerable, although not determined by observation. It is communicable by fomites of every description.

"J.B."—Fungi have been discovered in the scalp in the disease referred to.

"Amicus."—We are unable to give our correspondent the information he seeks "on luminous animals." We only know that those which are so singularly endowed occupy the lower position in the zoological scale.

"Medicus."—The excellent work of Dr. Mason Good should be consulted.

"Questor."—(1) It is impossible to say what cases of idiotcy are incurable. The trial must be made. Neither the smallness of the head nor the hydrocephalic enlargement are signs on which any opinion as to the result can be formed. The most unpromising cases, we believe, are those attended with hemiplegia, chorea, and epilepsy. (2) An Asylum for Idiots has been established in the neighbourhood of London.

"B.M., Glasgow."—We have found the nitrate of silver a very useful remedy in stomatitis—about one-eighth of a grain at a dose, dissolved in a drachm or two of distilled water.

"An old Subscriber" says, that he has recently attended a female patient, six months advanced in pregnancy, in whom there appeared large dark coloured patches on the surface of the body. The lady, he says, is about twenty-five years of age, and of fair complexion. Our correspondent wishes to know if this phenomenon has been mentioned by medical writers. Yes.

"Meteorologist."—Our own observations do not enable us to offer an opinion, but a celebrated German writer says, that the influence of weather and season upon health varies with the different periods of life.

"Juvenis, Manchester."—(1.) The examination for the degree of Doctor of Medicine in the University of London takes place only once a-year, commencing on the fourth Monday in November. (2) Fee, £10

"T C D," adverting to our Editorial Article on smoke, in last week's Number, wishes us to forward to him a list of patents granted for the consumption of smoke. Our Correspondent had better apply at the Office for Patents.

"Provincial"—The students of the Queen's College, Birmingham, are admitted to examination for the scholarships, exhibitions, gold medals, &c., offered by the Senate of the University of London.

"F R.S."—Not at present.

"Mr Cripps."—It is uncertain.

"*,*"—The communication must be authenticated before it can be published.

"An Army Surgeon."—A private communication shall be forwarded.

"M.R C S, Birmingham."—We have had the article sent analyzed by a skilful chemist, who pronounces it highly adulterated.

"Dubitans"—The test, according to the law of England, is the presence or absence, at the time of committing the criminal act, in one of diseased mind, of the consciousness of right and wrong. We agree with our Correspondent on the incompetency of juries, as at present chosen, to decide in matters relating to criminal insanity.

"Obstetrician."—Yes, the discharges referred to are not unfrequently witnessed in young females before the age of puberty, and they are by no means uncommon in those who have ceased to menstruate.

"Sine Spe."—The fears are groundless, the Profession will have an opportunity, during the recess, of examining closely any measure of medical reform which may be introduced into Parliament.

"A Legal Practitioner" should either be content with his present qualification, or seek some more honourable way of obtaining the degree of M.D.; by mere purchase, such diplomas are valueless.

"Nemo."—The medical men who sign the certificates in cases of lunacy, must state the facts upon which their opinion is grounded.

"A Medical Supporter."—We have not time to undertake the inquiry suggested.

"Æsculapius."—A candidate with the double qualification will be preferred.

"Electrician."—The ancients knew nothing of electricity as a science; their knowledge being confined to the fact, that amber and lincurium, supposed to be tormalin, attracted light bodies by friction. It was not known that other bodies may be similarly excited until the commencement of the 17th century, when Gilbert, of Colchester, detected the same property in a variety of other substances, and thereby laid the foundation of the science.

"A Constant Reader, Norwich."—On an average, human blood contains 60 or 70 parts of albumen in 1000; in some few cases it has been known to increase above 80.

"Zeta" complains that the registrar of his parish receives certificates of the cause of the death from druggists. He says that some cases have come to his knowledge which have been attended by illegal practitioners, and, the patients dying, the Registrar has taken no trouble to ascertain if the certificates have been properly given. Our Correspondent should lay the matter before the Registrar-General, who will take measures to remedy the evil.

"A Provincial Subscriber."—Belladonna will not cause a dilatation of the pupil under the circumstances mentioned.

"M.R.C.S." can obtain the articles mentioned at any medical fixture dealer's; we would recommend him to obtain the wire gauze blinds at Fox's, on Snow-hill. Our advertising columns will frequently give him the information he asks.

"A Navy Surgeon" shall have his request attended to. We are not without hope that the grievances under which the Assistant-Surgeons labour will, ere long, be remedied. Even the Lords of the Admiralty are not insensible to public rebuke, though they may wish to appear regardless of it. Increasing difficulties to supply the navy with educated medical officers will force from "My Lords," eventually, if nothing else will, that measure of justice which they appear so reluctant to grant.

"Iota."—The Apothecaries' Company has no power over persons practising purely as physicians.

"Justus" should address a letter to the Secretary of the College of Physicians.

"———."—Hyoscyamine and its salts are more uniform in their action than the plant, extract, or tincture.

"Mr. Carpenter, of Castlecomur," has forwarded us a case of malignant cholera, which occurred in a strong man, who had been suffering from diarrhœa for three months. When first visited he was affected with violent spasm, voice hoarse, heart's action neither to be felt nor heard, skin cold, thirst incessant. Hot spirit of turpentine directed to be laid over the heart and spine, and a blister over the xiphoid cartilage, hot water to the loins and soles of the feet. Half a-dram of Liq Kali pur. with 15 minims of Tinct. Opii, in two ounces of water, to be given immediately. After three doses of this medicine, without any perceptible change, a pint of fluid was evacuated from the bowels, in appearance like badly-prepared whey. The pulse then became perceptible at the wrist Another dose of the medicine was given in half an hour afterwards, and the following mixture:—℞ Bicarb. Sodæ, ℈ij.; Mist. Camph., ℥iv., Tinct. Opii, ℨi.; Sp. Æth. Nit. ℨiss. M., an ounce to be taken every hour, commencing an hour from the last dose of the other medicine. In the evening the cramps became less frequent, perspiration supervened, and the bowels became quiet. By midnight the heart's action was restored, after a comfortable sleep. Two grains of calomel were ordered next evening, and afterwards an effervescing mixture every two hours. From this time the patient began rapidly to improve, and in two days he was pronounced quite well.

"Chirurgus." — (1) Dr. Stevens is about to publish his method of treating cholera (2) To prepare Hæmatosine, blood is well stirred to separate the fibrine, and mixed with six volumes of a saturated solution of sulphate of soda, in which the globules are insoluble They are then boiled with alcohol acidulated with sulphuric acid, which dissolves a sulphate of hæmatosine, and leaves a sulphate of globuline. The red alcoholic solution is mixed with carbonate of ammonia, which separates the sulphuric acid and sulphate of ammonia along with a little globuline. The filtered solution being evaporated, leaves hæmatosine as a dark brownish red mass.

"Mr F. E. Lander, Shiffnall."—We are not aware of a second volume having been published.

"A Surgeon, Bristol."—A medical certificate-book of the cause of death may be obtained gratis, on application to the registrar of the district.

"Humanitas" had better address a letter to Dr. Stevens, Worcester.

"Audax."—(1) We know not how the degree of M.D. can be obtained without our correspondent leaving his practice for a short time. The degree is not now to be procured at any of the German universities by mere purchase. We rejoice in this alteration. (2) The expense varies in different universities. Our Students' Number may be consulted with advantage.

"Cod Liver Oil."—A Correspondent wishes to know the most agreeable way of taking Cod Liver Oil. We fear bad is the best, and that rendered worse since the value of the medicine has been much over-rated. We know a patient who takes it in orange-juice; lemon-juice, wine, and brandy, have been recommended. Madeira is said to conceal its very nauseous taste. Bennett and Macfarlane give it in peppermint, aniseed, or cinnamon. The former, however, causes eructation, and the unhappy patient, though he swallows one dose, tastes many. Duclou advises it to be administered in the form of an emulsion, with gum arabic, simple syrup, and orange-flower-water. All authorities, however, seem to agree, that it is most efficacious when taken pure.

"M.R.C.S London and a Disinterested Party," will see the subject discussed in this day's Journal.

"Mr. J. D. Milner, North Dispensary, Liverpool."—We cannot state positively.

"A Subscriber and Admirer."—We are obliged for the offer which we accept.

ORIGINAL LECTURES.

LECTURES ON THE PROCESSES OF REPAIR AND REPRODUCTION AFTER INJURIES.

DELIVERED AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND

By JAMES PAGET, F.R.C.S.

Professor of Anatomy and Surgery to the College

[Reported for the "Medical Times."]

LECTURE IV.

Development of blood vessels in granulations; their modes of formation in the embryo; their formation in granulations and similar new productions by outgrowths and channelling—Healing by secondary adhesion or union of granulations—Healing by scabbing; its several modes and advantages—Process of suppuration; Relation of the pus cells to granulation cells and inflammatory exudation cells, and of the *liquor puris* to fibrinous blastema—Probable degeneration of other cells into pus cells—Characters of scars; their contraction and gradual perfection.

MR. PRESIDENT AND GENTLEMEN,—There was an omission in the last lecture respecting the development of the substance lying between the granulation cells. This is not to be seen except in granulations which are well formed; and in them there lies a solid substance, in which there cannot be discerned a definite structure, but which passes through the several structures, and forms fibrinous cellular tissue. Their nuclei, after the addition of acetic acid are found embedded in a fine pellucid gauze-like substance. In the more degenerate kinds, perhaps, none of this substance is found; but in all the perfect kinds it exists, and takes part in forming the cellular tissue. Together with the process of development of the mere structure, there is a chemical character which is the contrary of development; for, as it loses the albuminous character, so it recedes from the character of highly organised chemical compounds. As the granulation cells become more and more formed, it assumes the character of fibrine, and then all its albuminous character is lost, and fibrinous cellular tissue is formed. In the development of granulations, in structure they coincide with the general rule, that all animal structures in the process of development are of the highest chemical composition, while all those, with very little change of particles, are of a comparatively low composition. In the blood albumen and fibrine abound, but no gelatine; but, in the cells which hold the blood, they approximate closely to the lower vegetable and inorganic compounds. In their first production they are formed of highly albuminous principles, and then degenerate into gelatine; but, like the common development of cellular tissue, they gain according to the length of time for which they must exist. I have hitherto spoken of the structure and elements of granulations, but coincidently with this there ensues a production of blood vessels for the further development of its structure, and it is a question of interest how these vessels are formed. Hunter's opinion was, that both the blood and vessels form in the granulation substance, as they do in the germinal area of the chick, and that, subsequently, they enter into communications with the vessels and blood of the part from which the granulations spring. But it certainly is not so, although the development of vessels is according to a method equally natural with that described by Mr. Hunter. In embryos, we may discern three several modes according to which blood-vessels are formed. In the first and earliest method, they are constructed around the blood corpuscles, which, being gradually developed from some of the embryo cells, are laid out in the plan of the earliest and simplest circulation of the blood. Thus, in the larvæ of Batrachia, as in the common tadpole, before even the walls of a heart are formed, one sees a crowd of embryo blood corpuscles collected where the heart is to be; and, in the substance of the out-growing external branchiæ, are looping lines of blood-corpuscles, around which as yet no walls can be discerned. It is so, also, with the blood and vessels of the warm blooded vertebrata; the corpuscles are rapidly developed from some of the cells of the germinal area, and are laid out in the plan of the heart, and the terminal sinus, and their communicating channels. But at first it is only as a plan; the blood does not move, and is not walled in. Then, as the heart and vessels are formed around the blood, its circulation in these simple channels is established. In this case the vessels appear to be formed of the plasma or fluid material which lies between the cells, and gradually assumes the condition of a membrane, and is then developed into the more complex structures of the blood vessels. After this earliest period of embryo life, it is probable that blood is never formed except within the vessels already constructed. It would seem as if none but the original embryo or germ-cells could be directly transformed into blood-corpuscles; all those that are later made derive their materials through a process of gradual elaboration in lymph or blood vessels, to which process no resemblance can be discerned in the substance of granulations. To increase the extent and number of vessels that must be added in adaptation to the enlargement and increasing complexity of the embryo, two methods are observed, of which the one appears chiefly appropriate to the interstitial formation of new vessels; the other, for the construction of those of superadded or outgrowing parts. For the former, one finds, in the interspaces of vessels already existing, primary cells which enlarge and elongate, and send out branches in two or more directions,—branches sometimes so exceedingly slender, that one might take them for mere threads of embryonic fibro-cellular tissue. But they are hollow; and while some of them are directed into anastomosis with each other, others extend towards, and open with dilatations into the vessels already formed and carrying blood. Then, these fine branches of each stellate cell becoming larger, while the main cavity of the cell from which they issued, attenuates itself, they are altogether transformed into a network of nearly uniform calibre, and through these the blood, entering by the openings of communication with the older vessels, makes its way. Thus the wide spaces of the network formed in the primordial circulation are subdivided into smaller meshes, and each part receives a more abundant supply of blood. Such a development (as shown in diagrams) may be seen in the soft gelatinous matter within the amnion of embryo sheep, and in the tissue of the tail of the tadpole; though in this last the development is often abortive, in consequence of the tail being so often a temporary organ. But, for parts that are formed by superaddition or outgrowth, another mode of development of blood vessels is observed, and this, I believe, is the only mode in which new blood vessels are ever formed for granulations or for superficial deposits of lymph, adhesions, and the like,—a process indicated in the specimens illustrating the repair of similar wounds which were purchased by the College from the Museum of the late Dr. Poll, of Brighton; and there is no reason to suppose that any other method prevails for the supply of blood vessels to any granulations, or similar new productions. For, though the process in granulations or in lymph cannot be exactly watched during life, yet every appearance after death is consistent with the belief that it is the same as I have described, and no appearances are found which would justify a suspicion that either of the other methods of development has occurred.

Suppose a single arch of capillary vessel passing below the edge or surface of a part to which new material has been superadded. The vessel will first present a slight dilatation in one, and coincidently, or shortly after, in another point, as if its wall yielded a little near the edge or surface. The slight pouches thus formed gradually extend, as blind canals or diverticula, from the original vessel, still directing their course towards the edge or surface of the new material, and crowded with blood corpuscles, which are pushed into them from the main stream. Still extending, they converge; they meet; the partition-wall, that is at first formed by the meeting of their closed ends, clears away, and a perfect arched tube is formed through which the blood, diverging from the main or former stream, and then rejoining it, may be continuously propelled.

In this way, then, are the simplest blood-vessels of granulations and such out-growths formed. The plan on which they are arranged is made more complex by the similar out-growths of branches from adjacent arches, and their mutual anastomoses; but, to all appearance, the whole process is one of out-growth and development from vessels already formed. And I beg of you to consider the wonder of such a process; how, in a day, a hundred or more of such loops of fine membranous tube—less than 1-1000th of an inch in diameter—should be upraised, not by any mere force of pressure, though with all the regularity of the simplest mechanism, but each by a living growth and development, as orderly and exact as that which we might trace in the part most essential to the continuance of the life. Observe, that no force so simple as even that of growth or mere assimilation can determine such a result as this; for, to achieve the construction of such an arch it must spring with due adjustment from two determined points, and then its flanks must be commensurately raised, and these, as with mutual attraction, where the millionth part of digression would spoil the whole, must approach and meet exactly in the crown. Nothing could accomplish such a result but a power determining the concurrent development of the two out growing vessels, in conformity with the same law as that according to which the same power actuates the germ. We admire the intellect of the engineer, who, after years of laborious thought, with all the appliances of weight and measure, and appropriate material, can begin at points wide apart, and force through the solid masses of the earth one tunnel, and can wall it in secure from external violence, and strong to bear some ponderous traffic,—and yet he does but grossly and imperfectly imitate the Divine work of living mechanism that is hourly accomplished in the bodies of the least conspicuous objects of creation—nay, even in the healing of our casual wounds and sores.

This process is sometimes interrupted, as shown in a series of experiments by Mr. Quekett. It sometimes happens that the little pouches which spring up will burst, and then a number of corpuscles are infused into the surrounding parenchyma of the tissue. The blood corpuscles that issue from the ruptured pouch or diverticulum collect in an uncertain mass within the tissue, like a mere ecchymosis; but before long, they manifest a definite direction, and the cluster bends towards the line in which the new vessel might have formed, and thus opens into the other portion of the arch, or into some adjacent vessel. For this mode of formation from vessels, the name of *channelling* seems more appropriate than that of out growth; for it appears certain that the blood corpuscles here make their way in the parenchyma of the tissue, unconfined by membranous walls. The occurrence of such a process of channelling as is here indicated loses all improbability, when we remember that in insects the blood habitually flows, in a considerable and important part of its course, simply filtering through the parenchyma, and running in the interspaces between the cellular tissue. In such channels, too, it seems very probable that the blood moves in part of its course through some of the softer medullary and other morbid growths; at least, in these I have often found it impossible with the microscope, to detect even the rudiments of such vessels as could carry their great supplies of blood. The general characteristics presented by the blood-vessels in granulations are shown in some preparations by Sir A. Cooper, which display that the vessels which pass into the substance of granulations run vertically towards their surface, springing up gradually, and rarely branching. Of these branches, some probably represent the loops or arches successively formed in the deepening layer of granulation cells, while others must be formed by offshoots from the sides and other parts of the several arches.

Near the surface of the granulations, at a very little distance below the outermost layer of the cells, the vessels communicate much more frequently, and form their loops or terminal arches, which generally lie between the tubercles which crown the summit of granulations. On the same plan are formed the vessels of the walls of abscesses lined with granulations; so, also, Sir A. Cooper described them in granulations from an ulcerated scirrhous cancer; and I have found the same general plan in the warty ulceration of soot-cancer on the scrotum.

The structure of the new vessels formed in granulations also agrees with the described mode of development. In the earliest period of their appearance they present no indication of being formed by the fusion, or any transformation of the granulation cells, but consist of thin membrane, in which, if it be not quite simple, nuclei or cytoblasts are imbedded. These nuclei pass through the same stages of development, by narrowing and elongation, as those I have described in the nucleated blastema; and thus they become like the pieces of flat fibre that one sees on the walls of the original vessels of the same size. Like them, also, they are arranged, some longitudinally, and some transversely to the axis of the vessels giving them a most peculiar appearance.

Respecting the purpose of the supply of blood thus sent to granulations, one traces, in the development of vessels, a series of facts exactly answering to those in ordinary embryonic development. Organization makes some progress before ever blood comes to the very substance of the growing part; for the form of cells may be assumed before the granulations become vascular. But, for their continuous active growth and development, fresh material from blood, and that brought close to them, is essential. For these the bloodvessels are formed; and their size and number appear always proportioned to the volume and rapidity of life of the granulations. No instance would show the relation of blood to an actively growing or developing part better than it is shown in one of the vascular loops of a granulation, imbedded among the crowd of living cells, and maintaining their continual mutations. Nor is it in any case plainer than in granulations, that the supply of blood in a part is proportionate to the activity of its changes, and not to its mere structural development: the vascular loops lie imbedded in the simplest primary cells, or, when granulations degenerate, in structures of yet lower organisation; and, as the structures are developed, and fibro-cellular tissue formed, so the blood-vessels become less numerous, till the whole of the new material assumes the paleness and low vascularity of a common scar.

Of the development of nerves and other structures in granulations, I have been quite unable to see any in either granulations or cicatrices. The acute sensibility of granulations would indicate the presence of nerves; but it would be more satisfactory to see them; for the force of contact may stimulate the nerves beneath them.

As to lymphatics in granulations, I believe they do not exist. Professor Schroeder van der Kolk tells me that they cannot be demonstrated in the skin, even in the healthy state, except in the scrotum, so that the active absorption must be accompanied by the agency of blood-vessels. It is manifest that the development of granulations and all their structures is accomplished according to a plan which is a mere repetition of that engaged in the embryonic tissues; and perhaps there is no better distinction between these than in the different degrees in which they are subject to disease. Amongst the embryonic tissues there is scarcely any deviation from the elementary structure; but among the tissues formed for the repair of injury, deviations are amongst the most common phenomena. A very few observations on the structure of granulations will prove the existence in them of diseases; one can trace the arrest of development of granulation structures; years may pass, and there may be no change; they do not pass on to development so as to heal. Again, they may degenerate, so that in fact, the walls are formed of corpuscles which resemble pus; or in dying persons they degenerate into a mere mass of debris. And so we may trace congestions; or, again, they inflame and suppurate so as to extend through the mass of granulations.

Perhaps I should now speak of the process of suppuration, but I will first briefly refer to the two remaining modes of healing open wounds. 1. By secondary adhesion. 2. By scabbing. The surfaces of granulations, if not covered with cuticle, and if placed in contact, will completely unite, and then the next succession of blood-vessels, instead of passing the arch will pass across between the two, and form anastomosis with the granulation cells they are in contact with.

Mr. Hunter describes this process:—"Granulations have the disposition to unite with one another when sound or healthy; the great intention of which is to produce the union of parts, somewhat similar to that by the first intention, although possibly not by the same means." And "I have seen two granulations on the head, viz., one from the dura mater, after trepanning, and the other from the scalp, unite over the bare bone which was between them so strongly in twenty-four hours, that they required some force to separate them, and when separated they bled." In illustration of the process he put up a preparation, which he described as "granulations under the skin in an abscess in the leg, which were opposed by others on the muscles, and which were to unite. Those under the skin only are saved and folded towards each other, to show the opposition of two granulating surfaces."

There are several circumstances in which the healing by secondary adhesion should be attempted, —such, for example, as I witnessed in a case which was lately in St. Bartholomew's. After an ordinary circular amputation of the thigh, no immediate union and no primary adhesion had taken place, and the whole interior of the stump was granulating. Had it been, as the expression is, left to granulate, or to fill up with granulations, the healing process would have occupied at least a month or five weeks more, and would have greatly exhausted the patient, already weakened by disease. But Mr. Stanley ordered the stump to be so bandaged that the opposite surfaces of granulations might be brought into close contact: they united, and in a week the healing of the stump was nearly perfected.

In all such cases—and I need not say that they are very frequent—the healing by secondary adhesion may be attempted without danger, and with manifest advantage.

Again: Mr. Hunter operated for hare lip, and no primary adhesion of the cut surfaces ensued. He let them both granulate: then brought the granulations together, as in the common operation, and they united, and healed soundly. And Mr. Skey told me he had operated for fissure of the soft palate. The very edges of the wounds sloughed and retracted, and the case seemed nearly hopeless; but he kept in the sutures, and granulations sprang up from the edges of the cleft, after the separation of the sloughs; they met in the mid-space of the cleft, and coalesced, and formed a perfect scar.

Doubtless, cases like these are of no rare occurrence; but I am induced to mention them as illustrations of a process of which the importance and utility are not generally considered, and which is rarely applied in practice.

The treatment of wounds by scabbing may be regarded, as Mr. Hunter says, as the most natural one, for it is the method by which one sees nearly open wounds healed in animals; for in them, even in the warm-blooded, it is difficult to excite free suppuration from the surfaces of wounds; they quickly become coated over with a scab formed of the fluids that ooze from them and entangle dust and other foreign bodies; and under such a scab the scar is securely formed.

In general, the scabbing process is effected by some substance effused on the surface of the wound, drying there, and forming a hard and nearly impermeable layer. The edges of this substance adhere over those of the wound, so as to form for it a sort of air-tight covering, under which it heals without suppuration, and with the formation of a scar, which is more nearly like the natural parts than any scars formed in wounds that remain exposed to the air, and which does not, like them, contract, so as to produce deformity of the parts about it.

The scab may be formed of either dried blood, dried lymph and serum, or dried purulent fluid. Instances of the healing of wounds under dried blood are not rare. It is especially apt to occur in the cases of wounds in which a large flat surface is exposed, as after the removal of the mammary gland. The most remarkable case of this kind is recorded by Mr. Wardrop; the largest wounded surface he ever saw, remaining after the removal of a diseased breast, almost entirely healed under a crust of blood, which remained on for more than thirty days. But the most common examples of healing under blood scabs are in small wounds—such as are made in bleeding, or, more rarely, in some compound fractures. The excellent, though nearly obsolete, practice of laying on such wounds a pad of lint soaked in the blood, was a good imitation of the most natural process of their repair.

If a blood-scab be not formed over a wound, or if such an one have been detached after being formed, then at once a scab may be derived from the serum and lymph that ooze from the surface of the wound. Thus it is commonly with wounds in animals that are left to themselves, and in many small wide-open wounds in our own case. Thus, also, I imagine, the best healing of burns and scabs is effected, when the exposed surface is covered with cotton-wool or other substance, which, as the oozing fluids become entangled with it, may help them to form a scab.

At a yet later period, the pus produced from exposed granulating wounds may concrete on them, and they will heal under it excluded from the air. Such a process may also ensue in the healing of ulcers. In any case the healing process is probably just the same as that under scabs of blood or serum; but, I believe, it has not yet been exactly determined what are the changes that ensue in the surface beneath the scab. So far as one can discern with the naked eye, the wounded surface forms only a thin layer of cuticle on itself; no granulations, no new cellular tissue, appears to be formed; the raw surface merely skins over, and it seems to do so uniformly, not by the progressive formation of cuticle from the circumference towards the centre, as is usual in open wounds.

The healing of a wound by scabbing has always been thought a desirable process; and when one sees how quickly, by means of this process, wounds in animals are healed, and with how little general disturbance, one may well wish that it could be systematically adopted. But to this there seems some hindrance. Many surgeons have felt, as Mr. Hunter did, that the scabbing process should be permitted much oftener than it is, in the cases of both wounds and ulcers; but none have been able to lay down sufficient rules for the choice of the cases in which to permit it. Probably, the reason of this is, that, at the best, in the human subject, the healing by scabbing is an uncertain process. When the scab is once formed, and the wound covered in, it is necessary that no morbid exudation should take place. Whenever, therefore, inflammation ensues in a wound or sore covered with a scab, (and this, I need hardly say, is a very common event) the effused fluid, collecting under the scab, produces pain, compresses the wounded surface, or forces off the scab, with great discomfort to the patient and retardation of the healing. I suspect that the many instances of disappointment from this cause have led to the general neglect of the process of scabbing in the treatment of wounds. The observance of perfect rest, and of the other means for warding off inflammation, might, however, yet make it an available auxiliary in the treatment of wounds, especially of large superficial ones; for, in the treatment of small wounds, collodion appears sufficient to accomplish all that scabbing would do.

Such are the several methods of healing observed after wounds of soft parts; and, in connexion with them, two subjects remain to be considered, namely, the process of suppuration, and that of the perfecting of scars.

LECTURES
ON
OPERATIVE OPHTHALMIC SURGERY.
DELIVERED AT THE CENTRAL LONDON OPHTHALMIC HOSPITAL.

By H. HAYNES WALTON, Esq., F.R.C.S., Surgeon to the Hospital, and to the St. Pancras Royal General Dispensary.

LECTURE II.

Lenticular cataract, its subdivision.—Consideration of the natural changes occurring in the lens, in elucidation of the nature of cataract.—Hard lenticular cataract, its appearances, peculiarities, and varieties.—Soft lenticular, ditto, ditto.—Capsular cataract, classification of.—Congenital cataract.—Morgagnian cataract.

GENTLEMEN,—*Lenticular Cataract* may be divided into two genera, hard and soft. I shall speak of the former first; but, before entering on a description of it, I think that I shall render the subject of lenticular cataract more clear and intelligible, by a cursory sketch of the changes that the crystalline lens naturally undergoes at different periods of life.

In infancy it is nearly spherical, and softer than at any subsequent period. Its consistence increases with maturing age, its form also undergoing change; and, in the adult, is a double convex body, less prominent before than behind. About the thirtieth year, sooner or later, it ceases to be colourless, its nucleus then being of a light yellow tint; after that the colour becomes more and more marked, and pervades the entire lens, which, at a very advanced age, resembles a piece of amber, while the posterior surface gets as flat as the anterior. With this diminution of bulk and acquired colour, it is harder, or tougher, and its specific gravity is greater. You must have remarked, when looking at the eye of an elderly person, that the pupil is devoid of that blackness that is observed in youth,—there being, instead, a yellowish tint, which seems to penetrate deeply,—it is owing to the colour the lens has acquired. The yellowness is less apparent while the lens is in the eye, than after its extraction. This is just the case in cataract, which always appears darker after it has been removed.

Hard lenticular cataract, then, is merely greyness, or opacity, appearing in an already discoloured and somewhat hardened lens. It is not the property of cataract to produce hardness. A lens does not increase in density from having lost its transparency. When I tell you it is from the middle period of life upwards that hard cataract is to be seen, you will understand why.

As the opacity of a cataract is rarely sufficient to destroy the discernment of large bodies, and never the perception of light, you would naturally expect that the amber-colour would not be concealed, but more or less apparent, in proportion to the greater or less degree of opacity. So it is, and hence the characteristic appearance of hard cataract is a mixture of dark grey and amber, deeper shaded in the centre; occasionally there is a mottling of grey and amber. It must, too, be remembered, that the greater the discolouration of a lens, the less will be the amount of opacity required to obstruct vision.

Hard cataracts are spoken of as being smaller than a healthy lens. I have shown that they must necessarily be always smaller than the lens of the same individual was in early manhood.

In health, the exterior of the lens is soft, the next layer firmer, and within is the nucleus, or hardest portion. In the cataractous state the same difference is observed. There is, however, this peculiarity, that the softer part much more readily separates from the harder.

Whenever a small cataract is extracted, it is nearly uniformly hard throughout, and is, in fact, little more than the nucleus of the lens—the outer, or softer portion, having been absorbed, or left behind in the eye. You will meet with hard cataracts in the aged, that do not, while they are in the eye, seem to possess any amber colour, being whitish, or whitish grey; and, were such to be seen in the young subject, would be considered soft. I do not know that I can point out any distinction between these and soft cataracts, except that the former are uniformly white and devoid of cloudiness, and their capsules are scarcely opaque. After extraction, however, they prove to be hard amber-coloured nuclei, surrounded by a layer of soft whitish matter, apparently softer, and certainly with less cohesion than the soft superficies of a healthy lens. There is another state in which white matter is seen in conjunction with a hard amber grey cataract. I shall give you Dr. Mackenzie's description of it. He says: "In the middle-aged subject, the external half of the cataractous lens is not unfrequently whitish, and so soft that it readily mixes with the aqueous humour, when acted on by the needle, while the central half is hard and amber-coloured." I have some beautiful specimens illustrating this and the other condition; but all of them I have extracted from old persons.

I shall not stop to offer an explanation of these exceptions,—it is enough that I apprise you of their existence. Hard cataracts may be so dark as to resemble the colour of mahogany, and observers say that they have been seen of so deep a hue, that without close inspection they would have passed unobserved.

I have seen a lens quite black; it escaped from an eye when a large staphylomatous mass was removed. The organ had been destroyed some years before, by some scalding liquid. The hardness of a cataract is generally in proportion to its darkness,—hence the mahogany-coloured are the most dense. The mother-of-pearl appearance of the surface of hard cataract is not proper to it, but is seen also in the soft kind, and may, moreover, occur in capsular cataract, so that, as a diagnostic it is of no importance.

I have spoken of the most usual characteristics of hard cataract, and said enough to enable you to recognise it. It would be a waste of time to dwell on peculiarities that individual cases present. I ought to mention, that occasionally are seen streaks or radii, glistening, or more opaque than the rest of the cataract. They are not peculiar to the hard genus. Some other points remain to be noticed which I think had better be deferred till after I have treated of the other division, as they will probably be the better remembered.

Soft Lenticular Cataract.—This appellation is used when opacity invades a lens that has not undergone the amber change; or, if it should have commenced, has not proceeded to any extent; hence soft cataract, with few exceptions, is an affection of early life.

If it were any property of opacity to produce hardness, why should not hard cataract occur in early years? Again: not only does an opaque lens often become softer than natural, but may even degenerate into a fluid form.

Except in one form of congenital cataract, of which I shall presently speak, there is not, originally, any decrease in bulk, but frequently an enlargement. Now, whether that precede the opacity, or *vice versâ*, I am not able to say; neither am I aware of the nature of the enlargement.

Light grey occupies, in soft cataract, the place that the amber grey takes in the hard variety; and in proportion to the softness does the grey become lighter and lighter, assuming a milky whiteness. The discoloration is generally uniform throughout the pupil, and not darker in the centre, as in hard cataract. It may present various appearances, such as being cloudy, or like the fractured surface of a piece of spermaceti. The streaks or radii that I described as seen in the hard cataract, are observed also in the soft, with this difference, that in the latter the glistening form is more commonly seen, while, in the former, the dull predominates. These appearances may occupy the margin, the centre, or the entire surface.

Although I have had many cases of softer lenses approaching to fluidity, I do not find recorded among my notes, nor do I remember to have seen, a decidedly fluid cataract with a transparent capsule. I imagine that it is very rare. It is stated that, when fluid, two strata may be seen, denoting a heavier condition of one of them.

The size of the posterior chamber gives a sure indication of the size of a cataract; the larger the space between the posterior surface of the iris and the opaque body, the smaller will it be, and *vice versâ*. Hence, in hard cataract, which is not larger than a transparent lens, at the same period of life there is always a posterior chamber of good size—it may be very large.

In soft cataract, which, as I have said, is often larger than a natural lens, and the larger it is the softer will it be, there may be not only no posterior chamber, but the capacity of the anterior lessened, the iris being pressed against and thrust forwards, whereby its movements become impaired; indeed, the cataract may actually protrude through the pupil.

Some years since I operated on the largest cataract of this sort that I have ever seen. There was very little anterior chamber, the iris being nearly in contact with the cornea.

We cannot depend on age alone as the criterion of a particular kind of cataract, when we know how variable are the periods of life at which changes, although inevitable, shall actually occur. Authors tell us, that rarely under 45 is hard cataract seen. This is, perhaps, true, if we require as proof a well-marked amber grey colour; but cases are presented to the surgeon under that age, which are neither hard nor soft, and require the critical question, What operation shall I here adopt?

I wish to impress on you the fact, that it is not possible, on all occasions, to determine with certainty the consistence of cataract. I will relate an anecdote in point.

An acquaintance of mine, a clergyman, about 40 years old, consulted the late Mr. Tyrrell for a well-formed cataract in one eye, commencing cataract in the other. Mr. Tyrrell determined to perform the operation of extraction. His death, however, prevented its execution. I should tell you that Mr. Tyrrell never used the knife when he could employ the needle for solution. The clergyman then applied to an equally eminent, and older oculist, whose success in extraction has probably never been surpassed; and we may fairly suppose he thought the cataract not sufficiently hard to demand extraction, for he operated by solution. Here, then, we have eminent men in extensive practice differing on the question of consistence, and deciding on different operations. Unfortunately, the eye was lost, in consequence of inflammation ensuing on the second use of the needle.

You must not be surprised to hear, that soft cataract may occur in the aged. I cannot imagine, in such instances, that the lens has not observed the natural law, and remained of the same consistence as in youth; but, rather, in consequence of some pathological change after having been once hard, it has become soft. This idea is borne out by the change that may occur in soft cataract.

A very marked difference of consistence sometimes occurs in the eyes of the same individual. I will mention an instance. I operated last year on a female at 69, and removed a cataract with a hard, amber-coloured nucleus, surrounded by very soft white matter. The capsule unbroken escaped with the lens. The operation succeeded. As the patient desired to have the use of both eyes, on the 10th February I operated on the second. The appearance of this cataract was totally different; it was greyish white, and, unlike that of the other eye, pressed against the iris, obliterating the posterior chamber, and greatly diminished the capacity of the anterior. After extraction, it did not exhibit the slightest amber tint, but looked like a lens from a young person, slightly opaque in the centre, but more so on the anterior and posterior surfaces. I pointed out the peculiarity to friends present, among whom were Messrs. Gay and Shute.

There is now an out-patient attending this Hospital, aged 72, who had cataracts of two years' duration, exhibiting, in a well-marked manner, the characteristics of softness. The capsules were, in part, slightly opaque. I performed the operation for solution.

Hard cataracts are now and then so friable as to break in pieces under slight force. They seem to be preternaturally dry,—they do not lose their colour while undergoing the change. If lenticular cataract be viewed sideways, the degree of opacity appears much less than when looking directly at it.

Capsular Cataract, or opacity of the capsule, is almost invariably of a dead or chalky whiteness, rarely shining, and always showing the same opacity in whatever position we look at it. In systematic works, capsular cataract is arranged under varieties depending on its thickness, the nature of adventitious deposits on it, the position and size of partial opacities, or the amount of diminution in the contained lens. I shall not follow such a classification, preferring rather, for my purpose, the following:—Partial capsular, the lens transparent or more or less opaque—complete capsular, enclosing a lens—and capsular only.

Partial Capsular Cataract, the lens transparent or more or less opaque, occurs in one or more spots, which may vary in size and situation; such opacity may be easily recognised by its definite outline, anterior position, and whiteness; and these characteristics are rendered more manifest, by raising the upper lid, desiring the patient to direct the eye to the ground, and looking obliquely into the pupil. You can then see behind any opacity, and better understand what I describe.

Complete Capsular Cataract, enclosing a lens, is judged of by its whiteness, prominence, and extent.

Capsular Cataract only.—One cannot always say when a capsule which has not been lacerated is freed of its lens; but it may generally be concluded that capsule alone is present when, in addition to being much flattened, and far behind a retracted iris, it has shrunk at the sides, being partially or wholly separated from its ciliary connexions.

The more or less ragged and irregular capsule that remains after operations is so palpable as not to need description. Partial opacity of the capsule may be met with in conjunction with partial opacity of the lens, and the colour of the two may so resemble each other, that without looking into the pupil in the manner I have described, an inexperienced observer may be deceived. The definite outline of the capsule will be well contrasted with the posterior, hazy and diffused lenticular opacity. This scarcely involves a practical point, but I have ventured to mention it.

The posterior part of the capsule, differing in structure from the anterior, has not the same tendency to become opaque; indeed, such an occurrence alone, without the lens and anterior part being also opaque, has occasioned much controversy, and, like many other subjects in surgery that are squabbled about, is not worth the time devoted to the dispute. Its existence is said to be indicated by deep-seated radiating concave lines, with dull appearance. Really we have no means of telling whether such opacity be in the capsule or lens, and it is a matter of no practical moment; for, with the appearance that is said to indicate posterior capsular opacity, the lens sooner or later become opaque.

Mr. Tyrrell says, that he has proved in several instances the lens to be the seat of such opacity, and not the capsule.

No proof is wanting of the posterior part becoming opaque in conjunction with the anterior. On two occasions, while performing the operation for extraction, the entire capsule, quite opaque, has escaped.

The capsule is rarely so densely opaque throughout, except it be caused from injury, as to conceal the colour of the lens it incloses; some little spots, less altered than the rest, afford the information. The changes that are effected in the capsule are not influenced by the age of the individual. Precisely the same conditions may be observed at any time of life.

I have alluded to the absorbing property of opaque capsule; to what else can I attribute the partial, or entire disappearance of the lens, when the capsule has been unbroken?

Congenital Cataract.—This scarcely requires to be placed under a separate head, for in it the lens and capsule may undergo precisely the same changes that I have described as occurring in soft cataract in later years, and therefore the same rules of diagnosis are applicable. In the majority of the cases that I have seen, the capsule has been opaque and very much thickened, and contained either a small portion of lens, or merely a little milky fluid. It is said that the central lenticular opacity occasionally met with in young persons, is of congenital origin. The opacity may be of the size of a pin's head, or occupy two-thirds, or more, of the lens. Sometimes the capsule is opaque, to a corresponding extent. Purulent ophthalmia frequently leaves a similar condition, not sufficiently extensive, however, to impair vision.

There is a congenital form—that which I alluded to, called *cataracta cum zonula*—in which the lens has not grown in proportion with the other parts of the eye, and when the pupil is dilated a black zone is seen around the cataract. In all that I have witnessed the lenses were but partially opaque in infancy, and, at a later date, became wholly involved.

Morgagnian Cataract, which is spoken of in ophthalmic works, is defined to be opacity of the fluid described as existing between the lens and its capsule, both those bodies being transparent. I have nothing to say on the subject from personal knowledge. Dr. M'Kenzie thinks that he has met with one case of it; but its narration does not accord with the borrowed general description he has given of Morgagnian cataract. That a turbid fluid is found between the capsule and the lens, when they are opaque, I have had sufficient proof both while extracting cataracts and otherwise.

I am disposed to regard such fluid as the result of softening, or breaking down of the superficial portion of the cataract. I do not see any difficulty in accepting this explanation, when we know that any entire lens may become fluid. I do not believe in the existence of a liquor Morgagnii; I have never been able to detect it. This turbid fluid in the capsule may obscure the true nature of a cataract and render liable an error in diagnosis.

ORIGINAL CONTRIBUTIONS.

REMARKS ON THE OFFICE OF THE COCHLEA, AS THE SPECIAL ORGAN FOR THE MENTAL DISCRIMINATION OF THE PITCH AND AGREEMENTS OF MUSICAL SOUNDS.

By J. D. MACDONALD, Member of the Royal College of Surgeons of London.

The field of discovery which the organ of hearing opens up to the scientific mind has been occupied by the most eminent physiologists; and many theories have been raised by them in explanation of the uses to which its different structures are subservient. But notwithstanding all this, little has been established beyond the facts, that the vestibule is the most essential part of the organ of hearing, and that it allows of the perception of the intensity of sounds by the strength of the impression excited. There is no satisfactory evidence to show that its function extends either to the perception of the pitch, or the appreciation of the distance, of sounds. Hence those faculties which are not attributable to the vestibule have been assigned to its accessory parts; but at present it is only the writer's intention to endeavour to show that the perception of pitch is probably effected by the arrangements of the cochlear scala.

It is presumed that the reader is fully aware of the anatomy of the internal ear; still, it will be necessary to demonstrate the leading characters of the cochlea, as far as they appear to bear on the function in question.

The cochlea may be said to consist of about two turns and a half of a spirally coiled, tapering tube, terminating at the apex of the coil in a blind extremity, called the cupola. But there are also certain internal parts deserving more particular attention; for it is only by reviewing their structure and arrangement that just, or even probable, conclusions as to their functions can be determined. It will be well, however, for the convenience of description, to take the cochlea from its anatomical position, and suppose the cone, which its outward figure presents, to have a horizontal base and a vertical axis, and the tube which composes it to possess a superior, inferior, external, and internal wall. The central axis of the cochlea (considered a distinct structure by the earlier anatomists, and styled the modiolus) has been long since shown by the elder Monro, Ilg, and others, to be merely the internal wall of the spiral tube above mentioned, and from the coiling of which its axoidal figure results. This wall is, as it were, pinched up into a longitudinal osseous fold (spiral lamina), which floats half way into the cavity of the tube, imperfectly dividing it into two secondary canals (scalæ); but the deficiency here indicated is made up by a membraneous expansion, which is attached by one border to the free edge of the bony fold, and by the other to the outer wall of the primary tube. The two scalæ thus completely formed communicate freely at the cupola, which, as above mentioned, forms the apex of the coil. One scala lies superposed upon the other. Hence they are distinguished into superior and inferior. The former is called the scala vestibuli, because it opens by its base into that cavity; while the latter, being partitioned off from the vestibule, and opening in the dried state by the foramen rotundum into the tympanum, has been called the scala tympani. And here it is to be remarked, that the scala vestibuli composes the cupola, while the scala tympani only communicates with it by a small aperture called the helicotrema, where the upper end of the spiral lamina remains imperfect. The foramen rotundum, above alluded to, will be found in the recent state to be overlaid with a delicate membrane (*membrana fenestræ rotundæ*). There is another aperture of an oval form, the fenestra ovalis, which is also closed in by a membrane bearing its own name, and which, although not anatomically connected with the cochlea, demands a slight notice from its intimate association with the functions of that organ. This foramen, situated in the tympanic wall of the vestibule, is the common inlet of sounds passing to that cavity, and from it to the semi circular canals and scala vestibuli. The base of the stapes is attached to the membrane which closes it, and thus a direct channel is furnished by the membrana tympani externally, the membrana fenestræ ovalis internally, and the ossicles between them, for the passage of sonorous undulations, to the internal essential organ and its accessory parts. And now, without entering into the microscopical appearances of the structure of the cochlea as the teeth-like processes, observed on the bony spiral lamina and the muscular mass, said to exist on the membraneous zone, or even noticing the manner in which the vessels are supplied to the organ, we shall pass on briefly to consider the distribution of the cochlear nerve on the lamina spiralis.

The modiolus, or central axis of the cochlea, contains the fibrils of the cochlear nerve, which run, for some distance, in boney canals, and then emerge by a great number of perforations in the walls of the so-called axis, from whence they pass onwards in grooves, and terminate by forming loops, which are spread out upon the inferior surface of the spiral lamina, so that their free surface is presented in the tympanic, or inferior scala.

On surveying the anatomy of the cochlea and the mode in which the nerve loops are laid upon the spinal lamina, together with the disposition of the cochlear and vestibular fenestræ, we are led to believe that its function is very peculiar, serving, in some important way, to make perfect the faculty of audition, and the more particularly when we reflect that it is superadded to the vestibule and semicircular canal in the higher classes of animals alone. In fact, it is not only an index to the development of the organ of hearing itself, but points to the position which the being possessing it holds in the animal series. Without considering the sacculated portion of the vestibule observed in some of the lower forms of vertebrate animals, as establishing anything strikingly analogous to a cochlea, which some anatomists are led to suppose, we must acknowledge the reptilia, and indeed only among the most perfect even of them, as the crocodile, to present the first manifest cochlea which we meet in the animal creation. It consists in the crocodile of a simple canal, slightly curved, but without forming the gyri observed in the human subject. This tube

is divided by a septum into two secondary canals, which communicate at a point analogous to the cupola of the cochlea in man. They may also be respectively termed tympanic and vestibular scalæ, like those in him, and for the same reasons, so nearly is the general arrangement sketched out in both. Birds present a similar cochlea to that of the crocodile, but it appears to have advanced considerably towards the perfect condition of this part discoverable in the mammelia, where the spiral tube generally describes two turns and a-half; indeed, in some, as the porcupine, the cochlea consists of more than three coils of tube. The guinea-pig is said to possess five. In timid animals, as the hare and the rabbit, this organ is very well developed, and in dogs the spire is particularly long or prominent towards the tympanum; but all this diversity is manifestly adapted to the economy of life which the general arrangement and application of its organization enforces upon each animal. Indeed, the senses in general suffer variation in obedience to the same laws, one being extremely acute in compensation for the deficiencies of another, or all may be very complex and delicate where the locomotive powers of the animal are weak.

[To be Continued.]

BRIEF NOTICES OF THE VARIOLOUS EPIDEMIC OF 1844.

By GEORGE GREGORY, M.D., Fellow of the Royal College of Physicians, Physician of the Small pox and Vaccination Hospital.

The metropolis has seldom, if ever, been so free from small-pox as it was during the years 1842 and 1843. The deaths by that disease, recorded by the Registrar General as occurring in the metropolitan districts, (comprising a population of very nearly two millions,) were only 360 in 1842, and 438 in 1843. The admissions into the Small-pox Hospital, during those years, were 155 in 1842, 160 in 1843. The deaths in the hospital were 34 in 1842; 27 in 1843.

The first quarter of 1844 exhibited a marked increase over the last quarter of 1843. The deaths in the Registrar's Tables advanced from 114 to 252. The admissions into the Small pox Hospital increased in about the same proportion -that is, from 48 to 88. This, however, was only the breeze that foretold the storm.

The commencement of the epidemic of 1844 may be dated from the 21st of April, when the weekly mortality by small-pox in London suddenly rose from 20 to 30, and continued (with slight irregularities) progressing from that period to January 28, 1845. The quarterly deaths in the metropolis were as follows:—

1844.	1st quarter	252
	2nd „	125
	3rd „	556
	4th „	571
	Total	1,804

The highest amount attained in this epidemic was in the week ending Saturday, January 4, 1845, when 61 deaths by small-pox were registered.

The advances of the epidemic are well shown by the following Table of admissions into the Small-pox Hospital during the year 1844:—

		Quarterly.
January	26	
February	37	88
March	25	
April	31	
May	60	150
June	59	
July	64	
August	56	190
September	70	
October	68	
November	71	219
December	80	
Total in the year	647	

The admissions into the hospital in 1844 exceeded by 1 those of the celebrated epidemic of 1781; and they constitute the largest number ever admitted in one year, with the single exception of 1838, when the epidemic extended through the entire year.

Of the 647 patients admitted in 1844, 391 were males, 256 females. 538 were adults; 109 (or one-sixth of the whole) were infants or children under the age of 14.

331 were classed as "*unprotected*," but in that number were included 22 persons who alleged they had been vaccinated in early life, but whose arms exhibited *no* cognizable cicatrices. 312 had undergone vaccination, and bore upon their arms cognizable scars more or less normal. 4 had some form of eruptive fever, not variolous; viz.:— 2 *rubeola*; 1 *varicella vera*; 1 *lichen febrilis*.

Among the 312 cases of post-vaccine small-pox, 297 were adults, 15 only were under the age of puberty. The youngest of these was aged 8. Two were received aged 9; four, aged 10; two, aged 11; three, aged 12: three, aged 13.

Among the 331 persons classed as "*unprotected*," 237 were adults, and 94 (or two-sevenths of the whole) consisted of infants and children under puberty.

The mortality was as follows:—

Out of the total number admitted (647) there died 151, being 23½ per cent.

Out of the 312 admitted after vaccination, with cognizable scars, there died 24, which exceeds 7, and approaches nearly to 8 per cent.

Out of the 331, belonging to the unprotected class, there died 127, being at the rate of 39 per cent.

Of the 94 unvaccinated children, there died 43, or nearly one-half.

Of the total children admitted (109), there died 44, or 2 out of 5.

Of the 538 adults admitted, there died 107, or 1 out of 5.

The mortality among infants and children, therefore, was double that among adults. This difference is attributable to the smaller proportion of vaccinated subjects who are susceptible of small-pox in the early periods of life.

The effect of vaccination in lowering the general mortality of small-pox admits of a very simple illustration.

In 1781, 646 patients were admitted into the Small-pox Hospital, of whom there died 257, being at the rate of 40 per cent. In 1844, out of 647 cases, there died 151, or 23½ per cent.; but then, out of 331 non-vaccinated persons, there died 127, being at the rate of 39 per cent. We may learn from this, that small-pox lost nothing of its original malignity in the sixty-four years which elapsed since 1781. Vaccination obviously diminished, in a very remarkable manner, the average intensity of the disorder, and the rate of mortality (viz., from 40 to 23), but it admits of question whether it diminished in a corresponding ratio the absolute number of cases.

There died of small pox in London, in 1781, 3,500 persons. With a mortality of 40 per cent., the total number of cases occurring in that year would be 8,778. In 1844, the total deaths by small-pox in London and its environs were 1,804. This, at 23 per cent., gives the total number of cases 7,844. The difference in the amount of population at the two periods forbids any idea of accurate comparison, but still the approximation of these figures is remarkable.

The type of the disease proved very severe during the year 1844, especially during the last three months of the year. 13 cases occurred at the Hospital of petechial small-pox, and 18 where the disease was ushered in with high delirium. A great number of those who experienced secondary fever had severe, and too often destructive ophthalmia.

The general severity of the epidemic was displayed among the vaccinated. Out of the 312 comprised in *this* section of the admissions, 186 passed through the disorder in a well-marked form, frequently indeed modified and mitigated, as the disease progressed, but often occasioning much anxiety during the early stages.

126 cases were of that mild kind, distinguished in the Hospital books as the *variola varicelloides*, or the "*highly modified variola.*" With one exception all these cases occurred in vaccinated subjects, who bore on their arms *cognizable cicatrices*. These cicatrices were usually (though not invariably) of normal character, and for the most part they were two, three, or four in number. A few exceptions to this law may be worth naming.

1. Thomas Taylor, aged 18, admitted Oct. 13, had the varicelloid disease, with *one large wafer-like cicatrix*.

2. Sarah Franklin, aged 15, admitted June 13, had the mild varioloid. Her arm displayed *one irregular and oblong cicatrix*, evidently the result of a sloughy vesicle.

3. Charlotte Hands, aged 33, admitted Oct. 1, had the varicelloid disease, with two *superficial* cicatrices.

4. Jane Nicholls, aged 18, admitted Aug. 18, had the varicelloid disease. On her arm were three cicatrices, but so *faintly perceptible* that they must have been overlooked, had the eruption proved confluent.

5. William Henry King, aged 14, admitted July 29, had the highly modified disease. His arm exhibited two cicatrices, but they were *small and abnormal*.

Among the 312 vaccinated persons who underwent small-pox, 70 were vaccinated in London, 214 were vaccinated in the country (including Scotland and Ireland), 18 on the Continent and in foreign parts. Ten were unable to state where their vaccination was performed. Of those vaccinated in London, seven were vaccinated at the Small-pox Hospital, seven at the stations of the Royal Jennerian Institution, and two reported themselves to have been vaccinated at the two principal stations of the National Vaccine Establishment.

The seven cases vaccinated at the Small-pox Hospital bore upon their arms excellent cicatrices. Three of them had five scars, and one had seven good scars. They were admitted at the following ages:—1 at 14, 1 at 16, 1 at 17, 1 at 18, 1 at 19, 1 at 21, 1 at 25.

In six of these cases, the disease was modified. Two exhibited, on admission, the confluent character of eruption. One young person, Eliza Dossetor, admitted Sept. 9, (her arm exhibiting one perfect cicatrix), passed through the semi-confluent disease wholly unmodified, *in the very same room* where, sixteen years before, she had been vaccinated.

Out of the 647 admissions, two persons reported themselves to have been *inoculated* successfully for small pox in early life, but both cases were open to great doubt. They are as follows:—

1. Edward F. Wye, aged 10, admitted October 29, was stated to have been inoculated at seven years of age, by a woman at Deptford. Besides the primary pustule on the arm, he is said to have had eight or nine spots on the body. This boy died on the twelfth day of the confluent disease.

2. David Field, aged 21, admitted July 9th, states that he was inoculated when young in Edinburgh. He has two good cicatrices on the arm. The disease proved confluent and fatal on the 16th July. It is very unlikely that the inoculation of small pox should have been practised in Edinburgh in 1824, and the presence of *two* cicatrices, resembling those of cow-pox, confirms my suspicion of the truth of the story.

Several cases, admitted into the Hospital during 1844, presented features of individual interest. The following may be taken as examples:—

1. Elias Tookey, aged 38, a native of Gloucestershire, admitted May 31, had been vaccinated when three weeks old, by Dr. Jenner himself, at Berkeley. He had the *confluent modified* disease.

2. Sarah Robinson was admitted at the advanced age of 83. She had been exposed to the contagion of small-pox on many occasions during her long life, but had never taken it. She was seized with the premonitory symptoms of small-pox on the 2nd July, admitted into the Hospital on the 6th July, and died of the confluent disease July 10th.

3. Cornelius Peers, aged 18, was admitted December 21, 1844, having confluent small-pox unmodified. He was a native of the Island of Celebes, and had been vaccinated in infancy, by a native doctor, who had received intructions in the practice of vaccination from a Dutch surgeon, resident in

the Court of that island. Six very good cicatrices were apparent on the arm. For some time this young man's life was in danger, but he ultimately recovered, and was discharged cured, January, 1845.

4. Emmeline Eliza Richardson, aged 20, was admitted September 7. She had been vaccinated in the country when young, and had two excellent cicatrices. The disease assumed the varioloid form; and no danger was apprehended. On the 11th September, at 7 a.m., she was seized, for the first time in her life, with a violent epileptic paroxysm; succeeded by a long and formidable state of coma. She gradually recovered, and was discharged cured September 23.

5. Elizabeth Eagle, aged 33, servant, was admitted November 30. She had been vaccinated when six years old at Nayland, Suffolk, and bore upon her arm three excellent indented normal cicatrices. Fourteen years ago she was carefully *revaccinated* by a medical practitioner of the same place, without effect. She had small-pox in a confluent and highly aggravated form, and died on the 22nd December.

Of the twenty-four fatal cases after vaccination, the greater number (nineteen) were aged between twenty and thirty. One died aged forty-three.

Hitherto, but very few cases of small-pox proving fatal to young persons after vaccination have occurred, either at the Small-pox Hospital or elsewhere, and a general belief has prevailed that the interval from the period of vaccination to the attack was an important feature in determining the severity of the consecutive disorder. The epidemic of 1844 threatens to subvert this long-received opinion. The returns of deaths from the Metropolitan districts, for nineteen weeks of that year, were submitted to me by the Registrar-General, among which I detected more than twenty instances of persons of tender years dying of small pox after alleged, and, apparently, satisfactory vaccination. At the Small-pox Hospital, during the year 1844, one vaccinated person died at the age of ten, one at seventeen, and one at eighteen years of age.

A remarkable feature in the history of the Small-pox Hospital during the epidemic was the extraordinary increase in the applications for revaccination. Out of a total of 632 persons, vaccinated during the last quarter of 1844, 134 were revaccinations, many of them the brothers and sisters of parties then undergoing post-vaccine small-pox.

The proportion of successful to unsuccessful revaccinations was certainly much larger than I ever remember to have seen it before. In many instances the second process was in all respects normal, even though perfect and numerous cicatrices were observable on the arm.

In private practice I had occasion, during the year 1811, to see thirteen cases of *small-pox after vaccination*; of whom nine had the disease severely and 4 mildly. In *none* of the cases was there any obvious mitigation of the symptoms by previous vaccination. Three of them died, and ten recovered, —one with the loss of the right eye.

This detail of the very grave events which, under my observation, characterised the epidemic of 1844, suggests several important inferences. It shows us, in the first place, that small pox will spread far and wide, without any aid from artificial propagation. No person was inoculated in London in that year, yet never has small-pox been more widely disseminated. The disease, too, has prevailed, with variable degrees of intensity, in every county of England, quite as much since inoculation has been abolished, as it did prior to 1810.

We have seen that the numbers admitted into the Small-pox Hospital during the year, *with* and *without* preceding vaccination, are nearly equal. It has been made apparent by former experie both in civil and military life, as well as by the events of 1844, that small-pox, after vaccination, proves fatal at the rate of 7 per cent. Now, it is known, that the deaths by *inoculated* small pox are only 1-5th per cent., or 1 in 500. Coupling the low rate of mortality by inoculated small-pox with the fact of the general prevalence of the disease over the whole country, independent of inoculation, there seems no valid reason why we should not avail ourselves of a measure which, in former times, was so beneficially employed for the mitigation of small-pox. When favourable opportunities offer, we might subject vaccinated persons to the test of inoculation at that period of life (puberty) when experience teaches that the susceptibility of small-pox is most likely to occur, and when the risk from small-pox, if taken, is always least.

I have long been persuaded that the tying up the hands of medical men, and preventing them, by law, from adopting such a measure is injudicious, and the recent epidemics confirm me in the opinion. It is difficult to see on what grounds the proposal could be objected to by the warmest supporters of vaccination. If the operation be followed (as it in the case of my eldest son) by pustule without constitutional disturbance, the efficiency of vaccination is proclaimed, and the security f the individual placed beyond a doubt. On the other hand, if constitutional symptoms *should* arise, we may reasonably anticipate that the resulting disorder will be mild, and most probably of the mitigated or modified sort. But, whether mitigated or unmitigated, the disorder, if taken, would, under such an arrangement, be undergone at home under the care of parents, and at a period of life the most favourable of all others for the reception of small-pox, instead of its occurring casually in more advanced life, with less power of constitutional resistance, and at a moment, perhaps, of all others the most inopportune. Several instances have occurred to me of married women taking small-pox at the period of their confinement —of young women receiving small-pox after vaccination when they were on the eve of marriage; and of young men taking it at the very moment when they were embarking for India!

It has been argued, that in revaccination, we possess a corrective for any defect in the primary process, adequate to all emergencies. The results of the two recent epidemics do not tend to establish this opinion. Many cases have occurred of persons taking small-pox after attempts at re-vaccination,—sometimes successful, sometimes unsuccessful. The further proposal of establishing a perpetual series of revaccinations, at intervals of five, seven, or ten years, so as to keep the vaccine influence always alive in the system, is obviously inapplicable in practice on a large scale.

As the law stands at present in England, any parent is permitted to expose his child to the natural infection of small-pox by the lungs; but he is punished, if he submits that child to the milder mode of reception, through the medium of the cutaneous absorbents! To be consistent, the law should *compel* parents to vaccinate their children. The existing law is manifestly absurd.

Against all unqualified practitioners the law abrogating inoculation should of course be rigidly enforced; but an obvious difference exists between indiscriminate inoculation by itinerant quacks, and the careful performance of the same operation, in select cases, by competent persons. One improvement would *necessarily* result from such a relaxation of the law as I here contemplate.

No other means exist of testing the efficiency of new lymph than *inoculation*. Vaccine lymph has been taken from the cow and disseminated throughout the provinces of England, very frequently and widely during the last few years, but no attempt has been, or can legally be made, to ascertain the protective powers of each new stock. Further, cases occasionally occur where inoculation might properly be adopted in *preference* to vaccination, even in young persons. The following occurred at the Small-pox Hospital in the course of the late epidemic:—

Eliza Douglas, aged 25, was admitted on the 23rd December, 1844, having severe confluent small-pox. With her came her two children, Rebecca, aged 4, covered with a confluent eruption, and Fanny, aged 14 months, in perfect health. Had I been left to the exercise of my own discretion, I would immediately have inoculated the infant Fanny, and taken my chance of the *artificial* preceding and superseding the *natural* disease. Twenty-four hours, too, would thus have been gained. The law not admitting of this course, the child was vaccinated on the following day in five places. On the 31st of December five perfect vaccine vesicles were developed. On the succeeding day confluent small-pox appeared on the child, who died January 8th.

Case 2. Rebecca Stephens, aged 24, was received into the Small-pox Hospital on the 9th of November, 1844. She was supposed to have small-pox, but the disorder proved to be *measles*. Nov. 13, sixth day of eruption, she is convalescent from measles; on this day she *ought* to have been inoculated; but the law not allowing this, she was vaccinated in five places, and in eight days the vaccine vesicles were properly developed.

On the same evening, however, (Wednesday, Nov. 20th,) small-pox appeared, of the *semi-confluent* kind. The convalescence was very tedious, being protracted by considerable secondary fever. She was discharged cured Dec. 23rd.

After very careful reflection, for many successive years, on the occurrences taking place around me, I am driven to the conclusion, that while encouraging vaccination to the utmost of our power, we ought not to close our eyes to the benefits which may arise from combining with it the *occasional practice of variolous inoculation*. Restricted as it would be (and as it ought to be) to medical practitioners, no reasonable doubt can exist but that it would be used with caution and due consideration, and from such modified employment of inoculation I foresee the greatest benefit, and no danger whatever.

Vaccination has now a strong hold upon the public mind, and that hold it will retain, provided Medical men continue convinced of its protective power. Medical men should, therefore, be armed with all proper means for testing the progressive security of vaccination at different periods of life.

The conclusion to which I have come is, that the Legislature would act wisely in repealing that clause of the "*Vaccination Extension Act*" which prohibits *Medical men* in England from the practice of inoculation; and further, that the occasional testing of vaccinated persons (especially of those verging on the period of puberty) would be preferable to the practice of *revaccination*, and a useful addition to the system of *infantile vaccination*, which should be encouraged, and supported as one of the greatest blessings which Providence has vouchsafed to man. We christen a child in infancy, but we *confirm* him at the period of puberty. We should treat the body as we treat the soul. We should vaccinate in infancy, but we should confirm (by inoculation) at the age of 14. With the provision for adult inoculation which has been suggested, I can see no valid reason why the practice of infantile vaccination might not hereafter be made *compulsory*.

G. G.

6, Camden-square, Camden New Town,
July 25, 1849.

MEDICAL SCHOOLS AND UNIVERSITY TOWNS OF GERMANY.

By Dr. BUSHNAN.

(Continued from page 50.)

THE DIFFERENT CLASSES OF CIVIL PRACTITIONERS.

The body of men whom I am now to consider are perfectly distinct in their character from the hierarchy of the medical officials. Their position in society is in conformity with the Royal Decree of January, 1825, in which the prime mover seems to have been the celebrated Rust. They constitute four distinct classes:—1. Graduated civil practitioners (doctors.) 2. Surgeons of the first-class, or medical surgeons, not graduated. 3. Surgeons of the second class. 4. Military practitioners.

1. Graduated Civil Practitioners. These gentlemen are either general practitioners, or pure physicians, confining their practice solely to internal diseases. The medical functionaries are selected from this body.

The practitioners embraced in the second class are of an inferior caste; they require no University education, but must possess a competent knowledge of the more simple Latin authors, and the capability of correctly writing a prescription. The right to practise follows the State examination. The exercise of their functions is, however, limited, as they are not entitled to practise in any locality where there is a doctor of medicine. Should any one settle in such a place, he is obliged by law to confine himself to the practice of surgery. This system of a restricted and conditional class of practitioners, did not, as was easily to have been foreseen, work harmoniously; and, in consequence of their interference with existing laws, a decree was passed in 1837 denying them permission to establish themselves in large towns, excluding, them in short, from every place where there was already a doctor of medicine. In this way they were reduced to the condition of the country surgeons, who had been suppressed by an ordinance in 1825. Much disagreeable collision has resulted from the establishment of this class of practitioners, and there has been no small amount of ink shed. It is the almost unanimous opinion of the superior officers of the Ministry that these surgeons of the first class should be suppressed.

3. Non-graduated Surgeons of the Second Class.—No one can attain a title to this grade unless he has officiated three years as an assistant-surgeon in the army, or followed the course of a medico-chirurgical school during that period. His classical and general knowledge, moreover, must be such as give him a claim to be admitted to the third division of a classical college. He then acquires his licence to practise from a provincial medical college, after he has undergone an examination of a restricted character, excluding altogether the practice of medicine. Though at liberty to settle anywhere, the sphere of their practice is very narrow, as they are only authorised to perform phlebotomy and scarification, and apply leeches. They are not permitted to treat any internal disorders, and they are held amenable for the consequences of any operation they may perform. They do more, however, than the law allows them.

Surgeons of the first and second grade never can assume the rank of doctor without special authority from the Minister, and, even though they have obtained this step, they do not hold *status* with the graduated practitioners.

Besides these, there are other special grades of accoucheurs, dentists, and oculists. These are examined by the provincial medical colleges, and the dentists required to have served three years in the army as military surgeons.

This distribution or classification of the Medical Practitioners has been severely criticised and objected to by the most able authorities. It is contended, that the division of the art of healing into medicine and surgery is based on a principle totally false: and that the distinction of operations into serious and slight, for the surgeons of the first and second class, is ridiculous, and of no practical import.

MILITARY DOCTORS.

To these, as to everything that relates to the Military Profession, Prussia shows her wonted partiality.

In Berlin there are two preparatory Institutions, intended for those pupils who are destined for the army,—the Foundation of Frederic William, and the Military Academy. The pupils, on entering these establishments, engage, for each year of instruction, to give two years service in the army as surgeons.

The pupils of the Institute of Frederic William number about 1100, are supported at the expense of the State, and have their Medical education gratuitously; they also receive a small allowance for pocket money.

It is otherwise with the pupils of the Military Academy, as they pay for their board and lodging. They receive, however, their medical education free. By way of compensation, however, they are only required to serve one-half the time in the army.

The period of study in both Institutions is the same, four years. When this is concluded, and they have received the title of Doctor, they enter the Hospital of La Charité, where, under the name of station doctors, they perform all the duties of house surgeons or physicians. The number of those from the Military Academy who do this, is limited. Their period of service in the hospital is one year.

In the charge of each, there are usually betwee 40 and 60 patients, whom it is compulsory to visit four times daily—twice by himself, and twice in company with the Medical officer in attendance. He is required to preserve a succinct account of the history of each case, and those of more than usual interest are detailed in a monthly report No one is allowed to publish the history of the cases in any Medical Journal, the privilege being reserved to the head physicians and surgeons.

In addition to board and lodging, the station doctors receive a salary of about 14*l.* yearly. On leaving the establishment, they enter the military service as surgeons. Legally, the pupils of the Institute are bound for eight years' service, and those of the Academy for four, but they ordinarily serve only half that period. They are quartered in the different garrisons, and have about 18*l.* as yearly pay. Their rank is equivalent to that of sergeant-major.

The period of military service concluded, the surgeon has three paths, one or other of which he can select. He may remain in the army, and forthwith he assumes the title of battalion doctor; but there is no further advance for him; or he returns to the Institute of Frederic William, to officiate as a teacher there for some five or six years. Finally, he can quit the military service.

At the close of their service as teachers in the Institute, they re-enter La Charité, under the designation of staff-doctors; their position being intermediate, between the station-doctors, who are their inferiors, and the hospital surgeons and physicians. They lodge and board in the establishment.

From the body of these staff-doctors the regimental surgeons are supplied. The next step is that of Doctor of Division, which immediately leads to the grade of physician to the general staff, the highest point of military medical hierarchy.

To complete the military medical organisation, the surgeons of the regiment or battalion, (having received the consent of the commander,) have a soldier to act as a dresser in the garrison hospital, who boards and lodges in the hospital, and must at least be able to read, write, and cypher. At first, their duty is to prepare baths, and apply blisters [illegible]d moxas, and subsequently acquiring a little [illegible]owledge of anatomy, they assist in the application of bandages, and aid the apothecary to prepare the medicines. They rank as apprentices for the first two years. At the end of two or three years they are called surgeons' assistants, taking the military rank of corporal. When they have concluded nine years' service, they rank as sub-officer, and receive pay accordingly. And in common with all subalterns, [illegible]hey claim a right to some civil appointment, after [illegible]welve years' service.

They do not throw away the practical knowledge [illegible]hey have thus acquired on quitting the military [illegible]ervice; but, following the example of the surgeon of the first and second class, they engage in [illegible]llegal practice, and so become an additional source of inquietude to the regular doctors, and [illegible]nterfere with the constituted medical hierarchy.

[To be continued.]

HOSPITAL REPORTS.

KING'S COLLEGE HOSPITAL.

RE-SECTION OF THE HEAD OF THE THIGH BONE.

Understanding that Mr. Fergusson was to perform [illegible]his operation, about which our readers are aware so much discussion has lately occurred in our pages, [illegible]e visited the Hospital on Saturday last. We found [illegible] great number of medical men, equally anxious with ourselves to witness the nature of the case, as well as the operation, assembled, and great interest was evidently excited.

At two o'clock the patient, a boy of ten years old, was brought into the theatre, and placed upon the table, having previously been rendered insensible by chloroform. The diseased limb being uncovered, an unequivocal specimen of morbus coxarius in its last stage was presented. The head of the bone was dislocated on the ilium, and could be felt through an opening which had been made over it. A large circular sore also existed over the trochanter, which was prominently protruding. The limb appeared to be much shortened, and the knee thrown across the other.

Mr. Fergusson carefully examined the parts with his finger, and then commenced the operation in the following manner:—An incision, about four inches in length, was made over the head of the bone, and carried below the great trochanter; the soft tissues were dissected from the sides of the bone, and the knife cautiously carried behind its neck, separating, as much as possible, the soft parts; the limb was then carried inwards by an assistant, and the section made by a small saw, below the trochanter major, and that process, together with the head of the femur, removed.

The cotyloid cavity was then examined, for the purpose of ascertaining if there was any disease to be removed, but it was discovered to be filled up with a mass of soft tissue which had been thrown out during the course of the malady. Several small vessels required a ligature; the wound was brought together, and the patient removed to bed. After the removal of the bone, the limb could be brought down straight with the other.

Mr. Fergusson, in the course of some observations, stated this to be one of those cases which surgeons—in London at least—denominated Morbus Coxarius in its last stage, and that the little boy, who had laboured for eighteen months under the disease, was sent into the Hospital for his opinion as to the propriety of performing the operation of re-section of the head of the femur. When the patient was first brought into the house, it was evident that dislocation existed; there was a large open sore over the trochanter major, and a profuse discharge of matter coming from it, which had greatly debilitated him. In order to ascertain the precise condition of the bone, and also to give some relief to the patient, a counter-opening above the trochanter had been made, and the head of the femur exposed, lying on the dorsum ilii, and in the centre of a large abscess. The cartilage could be felt on the bone, but its structure was so softened, that it could easily be penetrated by means of a probe. This measure had given the child some relief, but little hopes of further improvement; Mr. Fergusson regarded the head of the thigh bone as a foreign substance, keeping up irritation; and as he could not ascertain that there was any disease within the pelvis, nor in any organ of the body, he, therefore, considered it best for the patient to give him the benefit of the operation.

He had performed it in the same manner as [illegible]hey had before seen; he had removed the trochanter as well as the head of the bone, not because there was any disease within that process, but, because he had found from experience, that the wound healed more readily, and less irritation was afterwards caused, than when it was permitted to remain. They had seen that the limb could be straightened after the diseased part was taken away, and they would be able to keep it in a good position by the application of a splint.

With respect to the condition of the acetabulum, [illegible]t was probable that in this instance disease had at one time been present; but in this, as in other cases, after dislocation had taken place, and the two surfaces of the joint were no longer in contact, a reparative process had followed, and the morbid action in the acetabulum had ceased.

There had been much discussion as to the propriety of this operation; it was a subject which admitted of, and ought to have, a fair and open discussion amongst surgeons; he looked upon the present case as one of great interest, and he hoped [illegible]hat it would turn out satisfactorily.

PROGRESS OF MEDICAL SCIENCE.

FRANCE.

[From our own Correspondent.]

The slight recrudescence of the cholera, alluded to in my last, has not yet given way. On the contrary, the disease advances, though so slowly as to excite little apprehension. The number of deaths, in the city is about 15 daily; in the hospitals the same. On the 20th, of 35 cases admitted, no less than 21 proved fatal. The total mortality recorded by the official journals amounts to 16,000 for Paris; but, as I have already observed, this estimate falls considerably short of the truth.

The temporary increase of the epidemic cannot be attributed on this occasion, at least, to the heat, for the weather is cold and wet, the thermometer being below 20° Centigrade.

M. Husson, Physician to the Hotel-dieu, has been raised to the rank of officer of the Legion of Honour, and several physicians, distinguished for their zeal during the epidemic, have been made knights of the same order. Nor have the students been neglected.

Three hundred had placed themselves at the disposal of the authorities, and rendered immense services in the capital and environs. Each is to receive a silver medal and some pecuniary assistance towards completing his education. Two decorations of the Legion of Honour are to be distributed amongst the *internes*. The announcement of these intended recompenses was made by Professor Berrard to the assembled pupils on Saturday last, and every one acknowledged that they have been well deserved. In England, governmental gratitude never descends so low, and an honorary distinction conferred on a medical man is rarer than a "black swan." Strange it is, that the least military nation of Europe should reserve all its honours for soldiers.

The disease continues to spread in the provinces; and it is worthy of notice, that, as in Paris, it appears to select large public establishments for the seat of its ravages. Thus at Tours, the epidemic is almost exclusively confined to the General Hospital and the Penitentiary. The number of deaths in the town do not exceed three or four a day, while more than 100 prisoners in the Penitentiary were attacked within a few hours, and of these eighty died shortly after the attack; the cases being all of the very worst description—*faudroyans*, as they are termed here.

I have been informed by several Practitioners, that the "sweating sickness" also has made its appearance at Paris, and seems to select those localities in which the cholera was most prevalent.

CHEMISTRY.

Every one must have made the remark, that for the last few years the French school of chemistry has remained almost inactive. If we except a few detached memoirs addressed to the Academy of Sciences by MM. Baresivil and Cahours, Laurent and Gerhart, we look in vain for any sign of progress in that once famous school. Pelouze and Payen, Batard, Peligot, Fremy, Thenard, *e tutt quanti*, are silent, if not absolutely idle.

The cause of this stagnation may, I believe, be in great part attributed to the *route* which one of our greatest chemists, M. Dumas, has pursued for so long a time, but which he seems to have suddenly and completely abandoned.

Who has forgotten the sensation produced here some twelve or fifteen years ago, when Dumas and Liebig made their triumphal entry into the Institute, announcing a scientific alliance between th chemists of France and Germany, for the discover of the mysteries of life and death? M. Dumas was the orator on that memorable occasion; and hi brilliant eloquence captivated even the reason o his auditors. The animal and vegetable kingdom were to be analyzed; their successive transformations under the influence of organic agents were to be discovered; and this done, the philosophers ha merely to reproduce them artificially.

But the alliance, alas! was short-lived, and soo gave place to bitter war between the illustrious associates. Abandoned by his German confederate, M. Dumas bravely entered on the campaign alone, and brought forth his famous theory of *substitutions*, astonishing the world by its flash, but ending suddenly in darkness and oblivion.

This, however, was merely a pastime for M. Dumas. He soon returned to the charge, and set out on a new voyage of discovery, in company with MM. Payen and Bouissingault. This time we were assured of success, and, for a moment, even the illustrious chemists just named laboured under the conviction that they were about to reproduce in their crucibles the mysterious process of digestion. They furnished the experiments—weighing, now an ox, now a goose; examining the *ingesta* and *egesta*—while M. Dumas furnished the discourses—discourses of surpassing interest, but leaving behind them little of greater value than the *egesta* of the experimentalists. Who can forget the effect produced when M. Dumas announced the definite triumph of organic statistics, and in a paroxysm of eloquence said: "Gentlemen, within three months this great mystery will be unravelled, and we shall then be enabled to furnish you with positive rules for the alimentation of the poor man and the prisoner, the sick and the working classes."

The promised announcement, alas! was never made; animals continued to digest in their former ignorance, and the poor to starve; while chemical combinations, rebellious to the new doctrine, obstinately arranged themselves under the antiquated laws of a Lavoisier, a Berthollet, or a Berzelius.

Since this defeat, M. Dumas has observed a dignified silence, and his retirement appears to have given rise to the torpor of the French School, already noticed. A state of repose has followed the excitement produced by the seducing promises of M. Dumas; but it is to be hoped that the grand conception of the master may not be abandoned on account of his eccentricities. He failed, it is true, to establish a link between inorganic and vital phenomena; but the discovery of M. Raymond shows that the mystery of life may be made visible even to the eye of man.

EXTRACTION OF SUGAR BY A NEW PROCESS.

The *Moniteur* publishes a report, by the Minister of Commerce, on a discovery made by a young Belgian chemist, M. Melsens, a pupil of M. Dumas, which appears destined to exercise a very high influence on commercial affairs.

M. Melsens, it is said, has discovered a mode of extracting sugar from beet-root and the cane, without having recourse to any of the present expensive processes. The yield of sugar is increased one-third for beet-root and a half for sugar.

The scientific men, to whom this important discovery has been communicated, speak with certainty of its success, and the French Minister of Commerce says, "In presence of this revolution, which is imminent, all industrial operations connected with the manufacture of sugar are suspended, and the natural course of affairs cannot be resumed until public opinion shall be enabled to decide on the value of the new process."

The Minister, therefore, proposes to appoint a Committee to examine M. Melsen's discovery; and, if the report be favourable, he intends recommending the National Assembly to purchase it for the benefit of the State. The Committee has been already named, and is composed of M. Dumas and Chevreul, chemists, the Director-General of the Customs, four sugar manufacturers, and six members of the Legislature.

EFFECTS OF REMEDIES APPLIED DIRECTLY TO THE BLOOD.

M. Flourens has recently made some experiments on the effects produced by various substances when injected into the arteries. The results obtained by the learned physiologist are novel and entertaining.

They show that the substances employed may be distinguished into four classes: 1st. Those which act on sensibility; 2nd. Those which act on mobility; 3rd. Substances which produce muscular paralysis with relaxation; and 4th. Substances which give rise to muscular paralysis with rigidity.

The substances of the first class, or those which destroy sensibility, are the powder of liquorice, oak-bark, and cicuta; valerian, belladonna, pepper, and naphtha oil.

The substances of the second class, or those which destroy mobility, are sulphuric, acetic, and oxalic ethers; alcohol, sulphuric acid, tincture of camphor, chloroform, and the essences of bergamotte, cloves, mint, rosemary, fennel, &c.

The third class comprises the three ethers just mentioned, alcohol, sulphuric acid, ammonia, camphor, naphtha, oak bark, and liquorice.

In the fourth class, or that of substances producing muscular paralysis with rigidity, we have chloroform, and the essences of turpentine, bergamotte, cloves, mint, rosemary, and fennel.

Such are the facts deduced from the experiments of M. Flourens, and they give rise to many interesting questions. Why, for example, do certain substances act on the mobility, while others influence sensibility only? Why do some produce paralysis with relaxation, while others give rise to paralysis with tetanus? Why does naphtha act on the nerves in a manner analogous to the powders and camphor like the others? Why does chloroform act on the muscles like essences, while the ethers have an action analogous to the powders? We must confess our complete ignorance on these points; but it is not the less remarkable, that while some of those substances which produce paralysis with relaxation, act on the sensibility, and some on the mobility, All those substances that produce tetanic paralysis, act on the anterior roots of the spinal nerves.

TREATMENT OF GRANULAR OPHTHALMIA.

Some interesting, and at the same time decisive experiments were recently made at the Military Hospital of Bruges, to determine the relative values of nitrate of silver and acetate of lead in the treatment of the above mentioned disease. They prove the incontestible superiority of the acetate of lead.

This remedy was first introduced into practice by M. Buys, I believe, of the Bruges Hospital. His mode of applying it is as follows:—The neutral acetate of lead is reduced to an impalpable powder, and applied to the eyelids by means of a very fine hair-pencil moistened with water, and then dipped in the powder. From one grain to one grain and a-half, is sufficient to cover the whole inner surface of one eyelid, over which it is uniformly spread. After two or three applications, the granules disappear, and several examples of a prompt cure are related by Dr. Cunier, in cases which the surgeons id acknowledged to be rebellious to nitrate of silver. The application of the lead is likewise much less painful.

VAPORIZATION OF CHARCOAL.

M. Despretz, who had been making some experiments on the fusion of substances by the united heat derived from a lens, the blow-pipe, and electricity, announced to the Academy of Sciences that he has succeeded in converting carbon into vapour, by means of an electrical machine, containing 496 elements. It appears to be easier to reduce carbon to vapour than to melt it; and the experiments of M. Despretz lead him to conclude that any attempt to melt this refractory substance should be made in nitrogen gas, in metallic vessels, and under a pressure greater than that of the atmosphere.

SCOTLAND.

(From our own Correspondent.)

SCIRRHOUS INDURATION OF THE PERITONEUM.

At the Pathological Meeting of our Medico-Chirurgical Society on the 18th current, Dr. W. Gairdner, Pathologist to the Infirmary, exhibited an interesting specimen of scirrhous induration of the peritoneum. The case occurred recently in one of the clinical wards under Dr. Alison. Before death the patient had a cadaverous look, and altogether the appearance of suffering under considerable organic disease. He was affected with jaundice of a green tint; there was pain on the right side, and also tumefaction; but neither of these symptoms

seemed distinctly referable to the liver. At the last, fluctuation in the abdomen became perceptible. On inspection after death, there was found a considerable quantity of blood in the abdominal cavity; the peritoneum was covered with a layer resembling inflammatory exudation, but which really was nothing more than the decolorized fibrine of a part of the extravasated blood. The peritoneum, as the specimen showed, was hardened and thickened, particularly in the appendiculæ epiploicæ of the right side, in the mesentery close to the intestines, and in the omentum minus adjacent to the stomach. Minute tuberculated spots occurred in many places, in particular throughout the pelvic peritoneum. There were also numerous ecchymoses, and these also were conspicuous in the pelvic peritoneum. There was no manifest source of the hæmorrhage, and no sign of the rupture of any considerable vessel was obtained by the injection of the aorta or of the vena cava. The mesenteric glands, though so close to one of the principal masses of the disease, were wholly unaffected, as were the liver and the other glandular organs of the body; indeed, nowhere else were there found any marks of carcinomatous degeneration. The microscopic examination of the morbid texture in the appendiculæ epiploicæ, where the disease seemed to be most developed, gave no satisfactory results, apparently owing to the excessive accumulation of fat; but in the tuberculated spots of the pelvic peritoneum, distinct cancerous corpuscles were discovered. Dr. Gairdner referred to a case of soft cancerous degeneration of the peritoneum which had fallen under his observation, where, as in this instance, the mesenteric glands were unaffected, though close to the seat of the disease. Mr. Syme, who was in the chair, mentioned some particulars of a case in which he had been called on to tap the abdomen, which turned out to be an instance of effusion of blood into its cavity, connected with disease of a like nature.

DISSECTING ANEURISM OF THE AORTA.

Dr. W. Gairdner next brought forward a remarkble example of dissecting aneurism of the aorta, which had occurred in the practice of Dr. Sidy. The patient, a man fifty-four years of age, had been given to intemperance. He had been drinking for two days, and on the third, when going to his work, he felt ill. The first symptoms, pain and the like, were referred to the stomach; and as he had suffered under a stomach complaint from early youth, his illness does not appear to have caused much alarm. When Dr. Sidy saw him the pulse was 75, and soft; the heart's action feeble, and no bruit could be heard; there was no palpitation, nor were any indications of disease of the heart or of the great vessels gathered from the account he gave of himself. Dr. Sidy proposed to examine his chest more particularly at his next visit, but before he returned the patient had died suddenly. On opening the body, blood was found within the pericardium in very large quantity. Both sets of valves and the heart itself were quite healthy, and no appearance of disease was found till a large portion of the aorta was removed. On the interior surface of this vessel, a short distance from the heart, was discovered a transverse slit, including not much less than its whole circumference; through this slit the blood had penetrated into the substance of the middle coat, between the layers of which it had made its way so as to escape through the outer coat into the pericardium just above the right auricle. In the coats of the artery itself there was no atheromatous or other perceptible kind of degeneration; it seemed to be as nearly as possible in a healthy state. Dr. Gairdner entered, at some length, on the consideration of several of the most remarkable cases of dissecting aneurism of the aorta, already recorded, and after frequent reference to Dr. Peacock's paper, to Dr. J. Davy's experiments on the power of arteries to bear forcible distention without rupture, and to the views of other authorities on this subject, he came to the conclusion that dissecting aneurism of the aorta probably originated much more frequently from external violence than had hitherto been admitted. And though there was no evidence of violence in the case before the Society, yet, as the man had been intoxicated for a good many hours shortly before his illness commenced, and as there was nothing in the state of the coats to account for the laceration, and more especially for its great extent, he was disposed to think that a fall, or some other kind of external force, had been concerned in the rupture of the vessel. A discussion followed, turning chiefly on the comparative facility with which the coats of the arteries and the layers of the middle coats separate from each other, and on the power of the arteries to resist rupture from forcible distension. Mr Struthers insisted on the facility with which the layers of the middle coat of the aorta may be separated from each other in the dead body, and instanced the common case of the giving way of the aorta, just above the heart, on the injection of subjects for anatomical purposes. Mr. Spence thought Mr. Struthers made some exaggeration as to the former point, and Mr. Goodsir considered the rupture of the aorta under the injections practised in anatomical theatres as the effect of degeneration of its coats. Mr. Syme agreed with Mr. Goodsir on this point, but remarked on the considerable influence of external violence in giving rise to aneurisms, and referred to the disease by which Mr. Liston was cut off, as having had its origin in a blow. Dr. W. Gairdner, in reply, insisted on the great difference on the coats of an artery between the reaction following a sudden jerk, and the effect of the slower distension, practised in Dr. John Davy's experiments, and in the injection of subjects for anatomical purposes. Mr. Goodsir admitted the distinction, and referred to the frequency of rupture of the aorta, near the heart, in horses, killed by over-fatigue. Reference was also made to the rupture of the left ventricle in hares hunted to death.

RESTORATION OF THE UNDER LIP.

Next was introduced to the society a man whose under lip Mr. Syme had recently restored. The lip had been removed by Dr. James Duncan, and as the patient suffered considerable inconvenience, owing to the great deficiency of the lip, Dr. Duncan had recommended him to Mr. Syme for operation. The restoration was quite complete; there was nothing that could be called deformity; the man spoke with ease and distinctness, and expressed himself very grateful for the relief afforded to him by the operation.

SUDDEN DEATH FROM PERFORATION OF THE STOMACH.

Dr. Macauley then exhibited the stomach of a female who had been cut off suddenly a few days before, in consequence of the escape by a perforation of alimentary substances into the abdominal cavity. Besides the perforating ulcer, there were other marks of ulceration in progress, and also cicatrising and cicatrised. The deceased was a house-maid subject to stomach complaint; she had been indisposed for a few days. On the morning of Sunday, the 15th, she was seized with pain in the lower part of the abdomen, along with vomiting, while she was carrying coals to the kitchen from the area cellar. When seen soon after, the same symptoms continued, and there was great prostration, but no distinct symptoms of inflammation arose. No remedy afforded any material relief. The vomiting at last subsided, and she gradually sunk sixteen hours from the commencement of the attack. Dr. Macauley remarked, that the patient was, from the first, pale and anæmatous looking. The only remarkable appearance besides in the body was the unusual size of the thymus gland.

CONNEXION OF UNUSUAL SIZE OF THE THYMUS GLAND WITH ANÆMIA.

In illustration of the connexion between the anæmatous state and unusual size of the thymus, Dr. W. Gairdner exhibited a drawing of the neck and front of the thorax, showing a particularly large thymus in a female twenty years of age, from a case of an anæmatous character, which had recently occurred in the Infirmary; and several other cases of the same kind were referred to.

ANOMALOUS COURSE OF THE ARTERY OF THE BULB.

Mr. Spence then exhibited an interesting dissection of the pelvic arteries to illustrate an undescribed anomaly of the artery of the bulb, which took such a course that it must necessarily have fallen under the knife, during the division of the urethra in lateral lithotomy. The anatomists present acknowledged that they were unacquainted with the anomaly pointed out. The members of the Profession, who take an interest in such deviations from normal structure, will, doubtless, ere long, have an opportunity of studying Mr. Spence's own account of this matter.

BLOODY CYST OVER THE TUBEROSITY OF THE RIGHT ISCHIUM.

Lastly, Dr. Dunsmure exhibited a cyst of considerable size which he had recently removed from over the tuberosity of the right ischium. The contents were bloody, not unlike the fluid in hæmatocele. The man was a weaver; and the tumor had caused him so much inconvenience, that he had cut a hole in his bench to relieve it from pressure. The microscopic examination of the fluid had detected nothing more than the elements of the blood,—there was, however, an unusual abundance of white corpuscles. In connexion with the character of its contents, Mr. Syme remarked on the little progress which the pathology of hæmatocele was making.

Several articles made of Gutta Percha, sent by a manufacturer in Edinburgh, were exhibited,—ear-trumpets of various forms, and utensils for the use of the sick room.

This being the last meeting of the Society till the beginning of November, the President made a short address, noticing, in particular, the success of the new plan of having separate Pathological meetings, as holding out the prospect of still more important communications in future sessions.

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THE MEDICAL TIMES.

SATURDAY, JULY 28, 1849.

THE Profession of Medicine is about to have another insult added to the number which have already been heaped upon it; and the hopes which we had formed, that justice would be done to the public in the administration of Health Laws are, for this Session, we fear, doomed to disappointment.

Since the formation of the General Board of Health, under the Public Health Act, ten months ago, the whole Professional, and a great part of the general Press, have recorded, in terms of no measured indignation, the gross injustice of confiding to men, utterly ignorant of the machinery and working of the human frame, the laws which are to govern matters affecting the health of a great part of our town population.

The specious plea of the Board being a Board of *Works* and not a Board of *Health* was put into the mouth of the Noble Lord who presides over the Board; but we venture to say, that neither Lord Carlisle nor Lord Ashley will be

found to stand up in either House of Parliament and maintain the silly and ridiculous pretension.

What are the facts with regard to this Act? Why, that the whole professional duties strictly appertaining to medicine—and they are very numerous—must either be discharged by Lords Carlisle and Ashley, and Mr. Edwin Chadwick; or else those noblemen and that gentleman must seek for the information necessary to guide their counsels—which we believe they must now acknowledge they cannot possibly do without—in some underhand way, and from some unrecognized quarter.

What! is this all the acknowledgment by a liberal Government of the great services and vast sacrifices which have been rendered to the cause of public health by medical men? Is this the paternal care manifested by a Government professedly solicitous about the physical welfare of the masses of the poor who dwell in towns? Certes! to turn the Profession adrift with a cold 'thank you," for being so convenient and obliging a ladder by which others might safely and comfortably settle themselves in power, and to hand the public over to men who acknowledge themselves ignorant of the special question of Public Health, is an extraordinary method of exhibiting gratitude, and of promoting the public welfare.

It is impossible that the Profession can submit to this degradation, or that the public can endure this flagrant violation of their rights. Hitherto we have been silent, because we wished to believe that the force of circumstances alone had prevented the Government rectifying the false position in which they were last year placed by the opposition to the Health Bill in the House of Commons; but when an opportunity is afforded of rectifying the absurdity of the late Act by the amended Public Health Bill now before the House, and when we find that no attempt is there made to remedy the gross outrage on the Profession and the public, so loudly complained of, we cry shame to that Government which is so insensate to its own honour and the public welfare—which is so indifferent to the common weal, that it neglects a simple means of conferring a great public good, or is so miserably wanting in honest manliness as to yield its convictions of what is right to the stolid obstinacy of a dull-pated country gentleman.

To state that the Government are indifferent to this question may not be far from the truth; but that they are not indifferent to the loudly manifested voice of the public we have seen and know. Let, then, the Profession be aware, that every Health Officer to be appointed under the Health Act is to be subject to the approval of, (how otherwise than by examination?) and to be entirely regulated in the discharge of his duties by, the General Board. Let it reflect, for a moment, on the position of the present Poor-law Medical officers, and then determine whether another such system of extra-Professional Government, and Departmental disregard is to be lightly submitted to.

So far as the Profession is concerned, no greater misfortune can befal it than that the General Board should become recognised as a Government Board of *Health*, and that Medicine should be contemptuously ejected from it. In the old Institutions of Medicine many a long day's battle is yet to be fought, before the just claims of Medicine upon the State can be recognised, or its Professors assume their legitimate position in relation to the State. But in Public Health the cause is young, and unhampered by corporate jealousies, or the errors and prejudices of former times. It stands out in bold relief, a Medical Measure—suggested by Medical Men—fostered by Medical Men—upraised to its present position by Medical Men—and, it is not too much to say, only correctly appreciated, in its vast bearings on the welfare of the community, by Medical Men. Is it too much to ask, that a measure so essentially medical in its origin, in its progress, and in its application, should be worked by medical men? or is it calmly to be tolerated, that a great cause, gained through the indefatigable exertions of the Medical Sanitary Reformers, is to be misdirected, endangered, and sacrificed through the Ministerial weakness or the dead weight of a single oppositionist?

There is not a town or village in England in which the question of Sanitary Reform has not been agitated. Neither is there one, where a Medical Man can be found who does not feel that his interests and the interests of the public have been shamefully sacrificed by the Government. We will not heap blame on Lord Ashley, the representative of the Board in the House of Commons, for this disgraceful disregard, for we know him to be thoroughly open to the truthfulness and the justice of the cause we now advocate; and we would implore His Lordship even now to do battle against the intolerant bigotry and stupid obstinacy which oppose his manly efforts in this great cause of the People and the Profession. Success may yet crown his efforts:—defeat will not lessen the claim he has on the respect, esteem, and confidence of the public.

Whatever be the result, the Profession and the public have now entered upon the question, and for ourselves, we will not cease to agitate it till justice shall have been rendered.

ON THE PRINCIPLE OF THE MORAL TREATMENT OF THE INSANE.

'Tis the cause of man;
There dwell the most forlorn of human kind.

LURID as the atmosphere of the political horizon shone over the European Continent when the Saturnalia of the Revolution were enacted in France, there were still redeeming traits in the unsullied devotion of the Swiss to the Throne; of the followers of Larochejaquelin in La Vendée; and, even amid all the bloody scenes which the Place Louis Quinze hourly witnessed, a revolution of a very different character was going on, silently, even in the very centre of Paris, of which the benefits will be experienced by the latest posterity, and which claims the grateful acknowledgments of every inhabitant of the civilized globe. Prior to that period, the unfortunate lunatic was chained to the earth in his solitary cell, like a wild beast of the forest; and at times—we shudder to relate it—punished by stripes and blows from ignorant, perhaps well-meaning, but brutal keepers. This barbarous system of coercion was enforced everywhere, and even yet obtains in some remote and semi-civilized states.

The enlightened Pinel, in the year 1792, first struck the fetters from the maniac's limbs. As it was no less happily than truly said of Franklin—

Eripuit cœlo fulmen, sceptrumque tyrannis;

so Pinel restored the lunatic to the freedom of his limbs and to reason—and this was the dawn of the new, or moral management of the insane.

"In his visits to the Bicètre, where the lunatics were confined, Pinel was accompanied by the benevolent Coulon, who appears, however, rather to have been forced than persuaded into the measure, and whose reluctance was increased when he encountered the horrid noises and wild aspect of the miserable beings upon whom the experiment was about to be performed. 'Do with them what you please,' said he to Pinel, 'but I fear you will be their victim.' Happy in having thus his wish granted, no other reply was made by Pinel, than immediately to commence his plans by getting in readiness as many straight waistcoats as might be requisite, instead of the chains hitherto in use.

"For the experiment twelve lunatics were selected, one of whom, equal to any in ferocity, was an English officer, the particulars of whose history were unknown, save that he had been in fetters for forty years; and further, that he had, in one of his paroxysms, inflicted a fatal blow on his keeper; which deed, of course, was an apology for a greater degree of restraint being adopted in his case, and reasonably enough made strangers, or even the keepers, more than usually wary in approaching him. Entering his cell without attendants, and speaking gently,—'Captain,' said Pinel, 'I will order your chains to be taken off, and give you leave to walk in the court, if you will promise to behave well, and not to injure any person.' 'Yes, I promise,' was the reply, 'but you only laugh; you are all too much afraid of me.' 'There are six men at my command, if necessary,' rejoined Pinel; 'but believe my word, I will give you liberty, provided you put on this waistcoat.' The offer was silently and cheerfully accepted. The keeper retired, and the door of the cell was left open. After several attempts to raise himself from a position which had so long cramped his limbs, and having partly succeeded in managing his equilibrium, the Captain at length tottered into the free air, where, looking up to the sky, he cried out, with enthusiastic delight, 'How beautiful!' During the rest of the day he moved about constantly. In the evening he went voluntarily to his own cell, where a better couch than he had been accustomed to was prepared for him; and during two years afterwards, he was not only undisturbed by such paroxysms as he had formerly experienced, but rendered himself serviceable in the management of the patients."

The words of our metaphysical poet seem to convey an idea of the wretched state of the human mind, thus "cribb'd, cabin'd, and confined."

Each pure and natural outlet shrivel'd up
By ignorance and parching poverty,
His energies roll back upon his heart,
And stagnate and corrupt, till, changed to poison,
They break out on him like a loathsome plague-
spot.
Then we call in our pamper'd mountebanks.
And this is their best cure!—uncomforted
And friendless solitude, groaning, and tears,

And savage faces, at the clanking hour,
Seen through the steams and vapour of his dungeon
By the lamp's dismal twilight! So he lies
Circled with evil, till his very soul
Unmoulds its essence, hopelessly deform'd
By sights of ever more deformity.

This, then, was the first step; and a bold one, too, it was, that completely revolutionized the treatment of the unhappy insane,—which established a system of treatment for them founded on reason,—not on brute force; and the result of which now shines before the whole world in the moral management of the insane, and also, at the same time, evinces the soundness of the principles on which it is based, in the malady, under the new method of treatment, not showing itself more intractable than any other disease which is incident to the human frame. I may, perhaps, be of little moment what theory be proposed of the success of this line of treatment; for in the present day, whatever theoretical views we may support generally, we are most practically utilitarian ultimately.

By the term, "moral treatment," is usually understood all those means and arts by which we endeavour to restore the reason to its wonted due balance in the economy of the animal body —without the aid of medicines—or, we might say, with a noble bard, though said and sung in another sense,—

Can all saint, sage, or sophist ever writ,
People this lonely tower, *this tenement refit!*

the answer to which compass in the "moral management." The essentials of which are, *Isolation, Regularity,* and *Order;* but, above all, a due and well-organized system of *manual labour,*—or, to speak generically,—*physical fatigue.*

Assuming the mind to be immaterial, it is somewhat precarious to pronounce on what principle the so-named moral treatment produces its effects. On the opposite hypothesis of the nature of the mind, it would not be difficult to render some reasons sufficiently plausible and explanatory of the curative effects of the method of treatment; but the genius of our philosophy does not incline us to the latter hypothesis, though we admit the apparently very cogent arguments that have been adduced in its support.

A little examination into the essential features of Insanity may not be inappropriate, as introductory to the explanation we would respectfully submit: on this we shall be as brief as possible. Whatever definitions may have been offered on the subject, it is tolerably apparent, even to a superficial observer, that there is a want of control in the regulation and succession of the thoughts; which deficiency in the intellectual operations may affect all subjects indifferently, or may be limited and restricted to one idea. The precursory signs of the affection are all such as indicate an unsettled state of the physical and mental powers; the patient feels uneasy in one position, which he immediately changes for another, and this he as soon exchanges for a third, with as little reason as he made the first movement.

Quod petiit spernit; repetit, quod nuper omisit;
Æstuat et vitæ disconvenit ordine toto?
Diruit, ædificat, mutat quadrata rotundis.
Insanire putas solemnia me.

These symptoms, varying in different individuals, may continue for a longer or shorter period ere the open maniacal paroxysm break out,—the symptoms of which it is not requisite to detail here with the object we have in view.

Now, it has been ascertained by an accumulated series of observations, derived from all countries, and from all denominations of practitioners, that the malady yields rapidly, to a sound and duly organised plan of physical labour.

What, then, is there common to the mind and physical labour? Is it that the power which is expended in the one is so much withdrawn from the other, and proportionably the mental operations are suspended? This might seem a very obvious and natural mode of explaining the circumstance; but it fails in this, that it renders no reason whatever of the change in the train of ideas—it merely diminishes the amount of them (if such a physical form of language be not inadmissible.)

We conceive that the explanation rests in this, that, (arguing on the idea of the immateriality of the mind, and *à fortiori* the theory will equally hold good on the hypothesis of an unmixed materialism), there is undoubtedly a *somewhere* whence volition emanates to direct and control all the voluntary muscular movements, and equally coincident with this must be the volition by which we regulate or will the succession of our thoughts or ideas.

The will which determines the one, equally must preside over the other. There cannot be one will to direct muscular movement, and another to control thought, otherwise the unity of our consciousness could not for a moment subsist. First, then, as the power of the brain must be exhausted by the physical action long-continued and enforced, there will naturally be in that ratio a diminution of *thinking.* But this cannot take place without these morbid associations of thought becoming more or less broken in upon; and, as the force of these new morbid associations is according to a general law, always weaker than the associative relations of the older successions of thought, the latter eventually prevail.

The mental volition, as opposed to the physical, which regulates all the voluntary muscular movements, is not in due harmony; but a more than usually systematic plan has been adopted through the physical exertions the patient is constrained to make;—a firmer tone is thereby imparted to the volition generally, and, consequently, the aberrant fancies of the brain, which came "like shadows, so depart," and leave the mind of the patient in the wonted clearness and perspicacity of all its powers.

The direction, then, and regulation of the volition, so far as it is the controlling agent of the muscular movements, reduces the agent of volition, considered as an integrant part of the intellectual functions, to a more subdued state, and, by directly acting on one tissue of animal life, brings it generally into a more equable and harmonious, and more consistent mode of action; and, if it bring one most important operation of its functions into a regular and normal action, this healthy disposition will naturally be imparted to those other functions which it influences, actuates, and even may be said to rule. Indeed, this cannot hold otherwise than we have stated, if our postulate, that volition is one and the same, be conceded. To this it might be replied by some, that often the disease continues notwithstanding the healthy restored state of the muscular system. But it does not follow that volition may not be interrupted, in so far as the intellectual powers are affected, while the *physical* volition may exercise all its functions in complete perfection and harmony. The opposite occurs, we know certainly, where we witness daily the mind in the full exercise of all its intellectual powers, while the muscular system in different parts of the animal body, and in different degrees, is affected with palsy.

THE OPERATIVE SURGERY OF JOHANN FRIEDRICH DIEFFENBACH.

Edited by Dr. BUSHNAN.

(Continued from page 58.)

6. The extraction of foreign bodies from the cavity of the mouth and gullet.

Foreign bodies become fixed in the mouth only after having penetrated the mucous membrane, and are easily removed. When situate in the fauces or gullet, they create intolerable irritation, and eventually inflammation, if of a sharp or acrid description. Their immediate removal is, therefore, indispensable. Where there is a prospect of this being accomplished without operative interference, an endeavour may be made to provoke vomiting by thrusting down the end of a feather dipped in oil; if the patient has the power of swallowing, an emetic may be exhibited by the mouth, or, under urgent circumstances, injected into a vein. This treatment can apply only to small substances, for, if large and firmly impacted, the gullet may be ruptured. In all examinations with instruments, the tongue ought to be depressed to the utmost.

The body in question must either be withdrawn, or hurried into the stomach. The first course is the best, the last often dangerous. Venesection is occasionally indicated. Should everything fail, œsophagotomy is the sole alternative.

The substances which lodge in the fauces are generally small and pointed, such as fish-bones and needles, most frequently the former. The patient being seated, is directed to gape and make a deep inspiration, whereby the velum is elevated and the surgeon enabled to detect and extract the bone with a forceps. A lady, after eating some cake, suddenly shrieked with pain. I could perceive nothing about the neck, but on carrying my forefinger to the back of the tongue, brought away a long thick bristle, which lay archwise across.

Foreign bodies observe in their transit certain *stations* at which they halt; thus, in the pharynx behind the thyroid and cricoid cartilages, in the beginning of the gullet, or at its lower end, close to the diaphragm or cardia. They seldom stop at the middle of the gullet. If very large, they may cause suffocation—thus a large piece of meat, a hard-boiled egg, a pear, a chestnut, have each proved fatal. Guattani witnessed the most frightful death ensue from a chestnut; the part of the gullet at which it stuck was gangrenous. Spiritus saw the same result follow the swallowing of a five franc piece, which perforated the gullet above the cardiac orifice. Needles, inadvertently swallowed, pierce sometimes the gullet or stomach, advance by the aid of suppuration or otherwise towards the surface, and either escape spontaneously, or through incision. Lyson observed a case where three needles that went in at the mouth came out at the shoulder; I have known one issue at the arm.

The procedure must be modified according to the nature of the substance. None but a bungler would attempt to disgorge a piece of meat sticking at the cardiac opening, or urge on a fragment of glass from the gullet into the stomach. External pressure will suffice for potatoes or plums when stuck in the throat.

For the withdrawal of needles, fish bones, and the

like, there is no better implement than a large goose or swan quill-feather, with the barbed portion ruffled, and imbued with oil. The patient sits with his head leaning upon the breast of an assistant, while the surgeon lowers the tongue, then introduces the feather, with its concave side downwards, into the throat, turns it rapidly round, and draws it out. The popular practice of swallowing a crust of bread is sometimes availing, but may also increase the peril when arrested above the bone. A sudden slap on the back is by no means a bad plan, when the substance is large and obtuse. It is preferable to that of setting the patient on his head, as was done in the instance of Mr. Brunel, to promote the expulsion of the half sovereign piece.

The principal instruments employed for the present purpose are of the description of forceps. Dupuytren advises, as a preliminary step, the introduction of a gum elastic tube, surmounted with a silver ball, in order to ascertain the position of the foreign body. This, however, is superfluous, and will tend, moreover, to augment irritation. Cooper recommends the forceps of Weiss. The so-called leaden hammer of earlier writers consisted of a lead ball attached to a string, which was let down the throat, and pulled up again. Mesnier's lead hammer was of an olive shape; Petit's was equipped with a wire instead of a string. Petit used besides a metal noose fastened to a whalebone stem; Fabricius Hildanus a many-holed silver tube provided below with a sponge. The double ring of Graefe attached to the end of a rod of whalebone with a steel spring, is very convenient for taking pieces of money out of the throat. The customary instrument, termed *répoussoir*, or probang, namely, a bit of sponge as big as a walnut stuck to the end of a whalebone, is generally useful, either for entangling fish-bones and the like, or propelling large round substances. My own procedure is as follows: if the body be small and sharp, I employ the oiled feather above described. An oiled wax taper, passed down to the cardiac orifice, has proved serviceable; for, as soon as withdrawn, the body has been rejected. If the body be large, as a portion of flesh-meat adherent to a fragment of bone, I use a lithotrite with an imperforate scoop, and rather straight. The instrument is introduced with the blades closed, until it arrives at its destination, when these are to be separated sufficiently to grasp the substance, and, after a few gentle turns, withdrawn.

When there is impending suffocation from the presence of very large bodies impacted in the throat, Habicot enjoins tracheotomy before resorting to opening the œsophagus. I have never been compelled to this extreme measure. The most difficult thing to deal with are sets of false teeth when swallowed. I once relieved an old lady in this predicament by means of my fingers. On several occasions I have removed, with curved polypus forceps, from three to four teeth attached to a gold plate, and which got accidentally into the throat; once, by the aid of an emetic, as a last resort, a set of four teeth very deeply located.

In all these operations the patient is to be in a sitting posture; the head properly supported, the mouth rinsed with tepid water, tepid water mixed with white of egg taken as a drink, and the instrument smeared with white of egg rather than with oil.

7. Of Foreign Bodies in the Stomach and Intestines.

Foreign bodies may accumulate to enormous loads in the stomach before they endanger life. Fournier mentions a galley-slave who, after swallowing for years all sorts of extraneous substances, ultimately died of ileus. In his stomach were amassed twenty-eight bits of wood, a few small pewter spoons, several nails, buckles, weighing altogether one pound ten ounces. Bjerlander relates the instance of a man who swallowed a great many copper coins, a pocket-knife, and a steel for striking fire all of which were, however, rejected. Needles, bones of fish and of small poultry, are sometimes voided with impunity, at other times detained, perforate the tunics of the stomach, or the intestines, and migrate towards the surface, the track which they permeate being progressively closed as they advance. Small pointed bodies are found in the most unaccountable localities. Heim, the younger, records several instances of fragments of bone, grains of corn, and the like, which he detected in the *appendix coeci vermiformis*. I once met with a fish bone, half an inch long, in that situation, while examining the dead body of an aged female. I have not unfrequently seen fish bones and sharp osseous spiculæ discharged from fistulous openings about the verge of the anus, which had evidently perforated the rectum anteriorly to the sphincter, and given rise to fistula.

Leeches occasionally find their way into the stomach, and fasten themselves to its inner membrane. Numerous minute leeches were discovered in Egypt by Larrey in the stomachs of soldiers, who had died in consequence. When this happens, the patient ought to drink a quantity of strong solution of common salt to destroy the annelid, and afterwards an aperient dose of sulphate of magnesia to bring it away from the bowels.

When the substance remains, even after free vomiting has been induced, large quantities of white of egg ought to be administered either directly by the mouth or the stomach-pump, aided by clysters of the same, anodynes, venesection, and leeches. Should death not ensue, or the body not pass by the anus, Nature, in some rare cases, favours its escape by the formation of abscess, and art by incision through the stomach or intestine.

8. The Extraction of Foreign Bodies from the Rectum.

These have either traversed the whole intestinal canal, or originated from hardened fæces in the rectum, or entered from without.

The most appropriate instruments for their removal are bullet-forceps, polypus forceps, small lithotomy forceps, smooth blunt hooks of the breadth of the finger, and scoops with long handles. Before operating, the rectum is to be filled with gruel mixed with one fourth of olive-oil, in order to prevent its coats from getting into contact with the foreign substance, or damaged by the forceps. The patient is made to lean over the back of a chair and grasp its front edge, the buttocks being held apart by an assistant standing to the left side. The anus is then closed with the left hand, and the forceps, well oiled and shut, introduced by a gentle movement betwixt the fingers. The blades are next separated, carried upwards, and then approximated. The Surgeon will soon be sensible whether he has secured the object of his search; if not, he directs the blades upwards and downwards till he has; he then drags it out by a slight rotatory motion, as in the extraction of a stone during lithotomy. An irresistible call to stool seizes the patient, the liquid contents gush forth in a full stream, and at that moment the foreign body is evacuated. I have thus more than once taken away a mass of incrusted excrement which had been for years accumulating in the gut. I succeeded by the aid of a silver spoon in relieving an old gentleman thoroughly of an infirmity which had troubled him for a long period of time. He had previously been treated for stricture of the rectum by means of bougies, and once by dilatation through incision. He had annually resorted to Carlsbad to drink the waters, the radical evil having been overlooked. All loose stools uniformly swept by the incrusted fæces. The extracted lumps possessed a calcareous crust, and were very voluminous.

Leber failed in removing, by the forceps, a piece of wood one foot long and one inch thick; he at length bored it through, and pulled it out. Marchetti extracted a dried sow's tail by passing some membrane over it, so as to hinder the short prickly bristles from irritating the mucous lining. Von Walther drew away with forceps from the rectum of a peasant a piece of the root of a tree, which measured seven inches; Von Graefe, in like manner, the end of a stick; and myself a shoemaker's pliers from a lad.

Wherever the foreign body, either on account of its magnitude, or its being obliquely wedged in, cannot be got away without violence, it will be expedient to enlarge the orifice of the anus with a probe pointed bistoury. In order to insure a clean incision, the left index finger, smeared with oil, is to be inserted with the volar aspect towards the sacrum, as a guide for the knife, which is made to cut for about an inch in the direction of the *os coccygis*. This facilitates the extraction, and the wound readily heals under cold applications, and injections of gruel into the rectum.

9. The Extraction of Foreign Bodies from the Female Parts of Generation.

For this purpose the surgeon may commonly use his fingers or a polypus forceps; but if the foreign body be bulky and wedged in, then bullet or lithotomy forceps and broad hooks. The patient being seated upon the edge of a table, facing the light, with the thighs held widely apart by two assistants, the surgeon squirts a little oil into the vagina, examines the nature of the body with the fingers and speculum, then passes up the forceps previously oiled, gradually opens them, insinuating one blade behind the body, and finally withdraws it in the line of the pelvic axis. This is nowise difficult, when the body is not very irregular in shape, and the parts are not inflamed or swollen. Where, on the contrary, the vagina is contracted and deprived of elasticity through inflammation and puriform secretion, and the substance large, it must be broken up into fragments and taken away piece-meal.

After its removal, the vagina ought to be well syringed, and the patient put into a warm bath. Mucilaginous decoctions may be subsequently injected, and the parts fomented with infusion of chamomile and Goulard lotion.

Foreign bodies in this situation are of every variety. If allowed to remain long they determine inflammation, suppuration, and rupture of the vagina, either into the rectum or the bladder. Thus communication with these cavities and effusion of their contents into the vagina is the obvious result. Foreign bodies, if sharp and angular, occasion, now and then, dangerous lesions. I once had to remove from a young lady a number of different sized fragments of a porcelain urinal which had broken under her. The labia were severely wounded, and the vagina completely filled with the sherd. The hæmorrhage was so excessive as to have caused fainting. I extracted the whole by means of polypus forceps, and inserted a few fine sutures. The wounds healed promptly. Large, incrusted, and firmly adherent sponges were removed by me with lithotomy forceps, as also a variety of full-sized wooden pessaries, all in like manner covered with a crust. Some of these I was obliged to break, using several forceps with the aid of assistants, or else cut them in half with Liston's bone-scissors. Morand withdrew from a lady a silver pessary through the openings in which bridles had shot across, and held it fast. Dupuytren extracted from a nymphomaniac a pomatum pot; on another occasion, an old ring pessary, which was wedged in, and caused most urgent symptoms. A girl introduced the cone of a pine into the vagina. The sharp imbricated scales got lodged in the mucous membrane, and were picked out one by one after the cone had been cut in pieces. The vagina was excessively turgid.

REVIEWS.

Stricture of the Urethra, its Pathology and Treatment; comprising Observations on the Curative powers of the Potassa Fusa in that Disease, with Cases. By Robert Wade, F.R.C.S., Senior Surgeon to the Westminster General Dispensary, Fellow of the Royal Medical and Chirurgical Society, and late Lecturer on Pathological Anatomy. Second Edition. Greatly enlarged. Royal 8vo. Pp. 247. London: J. Churchill. 1849.

It is a gratifying reflection, that the inquiring spirit of the age, although at times following after visionary pursuits, and not unfrequently embracing error, yet more frequently discovers truth, extends human knowledge, and increases human happiness. The labours of scientific investigators are

every day adding to our comforts, and it may truly be observed, that during the last few years the healing art has made greater advances towards perfection than it did in quadruple the time half a century ago. Numerous affections, that were once little understood, are now treated with a success that formerly would have appeared marvellous. Diseases then abandoned to chance, or rather the unaided efforts of nature, are now brought so much within the dominion of the physician's or surgeon's power, as to be either cured or greatly mitigated. The disease, in its various forms, of which the treatise now before us professes to treat, is one of those maladies which, though less formidable than many others, produces an immensity of discomfort, and often considerable suffering; yet the surgeon's aid can, in most instances, be of great service; and we rejoice to be informed by our author that his experience and observation on strictures of the urinary passage, have led him to what he conceives still further improvements in practice. It may here be well to say, before proceeding further, that in those cases where the nitrate of silver has been used, he would recommend in preference the potassa fusa.

"The causes which chiefly tend to the production of strictures of the urethra may be conveniently placed in the order of their degree of liability to produce that disease. 1stly, Protracted gonorrhœa. 2ndly, Continued chronic urethral inflammation in persons possessing an irritable urethra. 3rdly, The continued discharge of unhealthy urine containing the lithates or phosphates in excess. 4thly, calculi or other causes producing irritation and inflammation of the kidneys, ureters, or bladder, subsequently extending to the urethra. 5thly, External or internal injuries and tumors."—P. 16.

There can be little doubt, that by far the most common cause of urethral stricture is gonorrhœa; in nineteen instances out of every twenty it is so, and especially where injections are improperly employed, and we are of opinion that this would be a comparatively rare disease, if it were not preceded by the gonorrhœal poison. How seldom stricture of the œsophagus occurs; but subject that passage to the influence of an irritant poison, and cause inflammation, then its contraction is a most probable sequel. Under the second head given by our Author, he refers to other causes giving rise to chronic inflammation, than gonorrhœa—and these he considers as primary affections, proceeding from spontaneous local irritation.

Mr. Wade describes strictures of the urethra under the following heads:—

"1. The dilatable stricture. 2. The simple chronic stricture. 3. The impassable stricture. 4. The irritable stricture. 5. The inflammatory stricture. 6. The stricture with marked disposition to contraction. 7. The spasmodic stricture. 8. The stricture from external or internal injury."—P. 18.

These pathological distinctions might, perhaps, have been advantageously reduced to a less number. The irritable stricture and the inflammatory might with propriety have been considered as degrees of the same state—as acute or subacute. The *irritable* condition, attended with *vascularity* or disposition to bleed, is, of course, but another mode of expression for a certain amount of inflammatory action. Again, stricture, with marked disposition to contraction or spasmodic stricture are, perhaps, equally reducible to one head.

"The gum elastic catheter is a most useful instrument, and often proves of very great value in the treatment of stricture. Gum catheters should be kept of their proper curve by a stilette; and they may be used with or without it as occasion may require. Steel sounds sometimes, coated with silver to preserve them from rust, unless the urethra be too irritable to bear them, are, undoubtedly, far preferable to all other instruments in dilating a stricture which often becomes so hard and contracted, that bougies of a less solid material are very inefficient, if not entirely useless. Silver catheters are also very useful, especially when an instrument of very small size only can be employed; for, being lighter than the more solid sound, they are consequently less likely to injure the urethra."—P. 35.

There are few operations in surgery requiring more than the introduction of the catheter,—it is to be acquired by practice, and practice alone. We have heard one of the most distinguished of the Profession assert, that he owed much, or all his great success in life to the fortunately speedy introduction of this instrument in a patient of high station, when one or two others previously failed. In the hands of a careful and adroit operator, the silver catheter is infinitely preferable to the elastic gum one. Where there are false passages, and it is difficult to find the natural way to the bladder, and more time is required, the gum bougie is apt to slip or move from the stilette, and at all times the sense of touch is far more perfectly transmitted through the medium of silver. We quite agree with the Author that metallic instruments are the best for dilatation.

As regards the use of caustic, Mr. Wade says:—

"Potassa fusa, when properly applied to strictures of the uretha causes a sensation of heat seldom amounting to pain, which is commonly of very short duration, although it may remain for one hour or more. When freely used, its application is often followed for a day or two, and sometimes for a week, by a slight mucous or muco-purulent discharge, occasionally tinged with blood; generally, however, if only gentle pressure be made against the stricture, there is apparently but little discharge beyond that which is observed on the point of the bougie.

"* * * The potassa fusa, when first applied to a stricture, causes an increased secretion of mucous, which, mixing with the alkali, renders its action less powerful, and, at the same time, diffuses it freely over the diseased part. *I believe that its good effects arise more from its promoting absorption of the stricture than by absolute destruction of the tissues.*

"The property possessed by the potassa fusa of combining with oily substances and animal mucus, forming a saponacious compound, renders its action more mild, and also enables it *to penetrate the hardened tissue of a stricture to soften and promote its absorption, more effectually than the nitrate of silver.* Whatever may be the precise mode of its action, the superiority of the potassa fusa to the argenti nitratis in opening a stricture I have had ample opportunities of experiencing."—P. 43.

Although we do not for a moment deny the frequent necessity of using caustics in removing morbid depositions obstructing the canal, yet, wherever it is practicable, the dilating process should be had recourse to—if only a bougie of the smallest number can be applied. Though, perhaps, a more tedious method, it is safer, and we can now call to mind cases where the stricture had been pronounced impassable, yet under the effects of opium, warm baths, &c., a small bougie or catheter had been introduced, and, by gradually increasing the size of the instrument, the passage has, in course of time, been rendered sufficiently permeable. We remember an instance, some years ago, of a patient, labouring under what the surgeon represented as impassable stricture, coming to Edinburgh from the Orkneys. A false passage had formed through the perineum, and, by that outlet, the bladder had for some time been relieved. After considerable patience, the smallest bougie was introduced, and a cure ultimately accomplished. Mr. Wade argues very rationally on the *modus operandi* of the potassa; and he has done the Profession service by bringing into notice an agent which he shows to be superior to nitrate of silver, and equally safe. In the application of potassa fusa to other parts, we agree with our author, that it has a greater power of producing absorption than the lunar caustic. The manner in which Mr. Wade applies his agent is by inserting a small portion of the potassa at the end of a soft bougie; the quantity employed is from the eighth to the sixth of a grain. "It will be rarely necessary," he says, "to exceed the sixth of a grain." It is recommended to be applied every second or third day; but, should there be scalding, irritation, or decided pain from the last application, to allow even four days to intervene.

We have perused the Treatise before us with considerable interest. It is the production of a painstaking and an accomplished surgeon; and well illustrated by cases, clearly and fairly showing that the potassa fusa is a very valuable remedy. This edition is considerably enlarged by fresh and important matter, and is a very creditable production. We have little doubt of its merits insuring it an extensive circulation.

REPLY TO MR. SKEY'S LETTER ON THE TREATMENT OF CHRONIC ULCERS WITH OPIUM.

[To the Editor of the Medical Times.]

Sir,—When I undertook to lecture medical pupils on the causes and treatment of ulcers of the leg, I considered it quite as important to caution them against what I believed to be useless or injurious, as it was to inculcate correct principles of treatment. One of the greatest difficulties with which the student has to contend, in the present day, is, to select judiciously from amongst the multitude of remedies brought before him, and it becomes a paramount duty of every teacher to assist him in separating the wheat from the chaff. In carrying out this intention, I deemed it my duty to state my opinion of Mr. Skey's method of treating ulcers by opium,—an opinion formed, partly upon actual experiment, partly upon the style of argument adopted in Mr. Skey's pamphlet, and, I must add, somewhat strengthened by the letter he has just published in your Journal.

The mainstay of the arguments in favour of the opium treatment rests upon facts; and herein it is that I think I detect its weakness. I clearly trace in my own mind throughout a striking confusion of the *post hoc* and the *propter hoc*, somewhat after this fashion:—"A poor man, with a large chronic ulcer of the leg, is taken into St. Bartholomew's Hospital; he is kept in bed; a liberal diet is given him; some mild application is used to the sore; *opium is given night and morning*, and the sore rapidly heals." Or, to take the case of Mr. P., a Governor of St. Bartholomew's Hospital, quoted in Mr. Skey's letter, whose appearance in Court is to set the question at rest for ever. It is true opium was given, but in the next paragraph it is stated, that the limb was *strapped and bandaged*, which, in my humble opinion, as also in the former case where rest and good diet were enjoined, had far more to do with the cure than the opium—*the real value of which can only be ascertained by abstaining from other acknowledged means of cure during its administration.*

The paragraph I published in my Lectures had simply for its object the exposition of my own views upon this subject; I never dreamed of changing Mr. Skey's opinion,—and, as I now learn that his work has been translated, and has diffused itself over the greater part of the civilised world, I am only surprised he has condescended to notice my humble production. Had I been previously aware of the world-wide celebrity of this opium treatment, I should, probably, have expressed myself more guardedly; there is, however, perhaps, some excuse for me in the circumstance, that, although this book has been published fourteen years, I have met with no mention of it in any Treatise on Surgery, whether British or Foreign, that has appeared since that time; and even Mr. Vincent, a former colleague, though he devotes a special section to the subject of ulcers of the leg, does not allude to the opium treatment. The only exception, that I am aware of, is in a work recently published by Mr. Chapman on Ulcers, where, on page 36, I find the following paragraph:—"In treating by this remedy alone the kind of cases indicated by Mr. Skey, I have not met with the same degree of success which attended the employment of opium in his hands." Mr. Skey states his conviction, that opium will earn more laurels than ever, in consequence of my rash and ignorant attack, and upon this he is willing to stake his professional reputation against mine. I can only say I am quite ready to accept the challenge. Let some Hospital Surgeon act as umpire; let six cases of chronic ulcers of the leg be selected as nearly resembling each other as possible, of these let each of us take three. I will confine my treatment to what I must still venture to call the principle of mechanical support, although Mr. Skey denies its physiological accuracy—no medicine shall be given, and exercise shall be allowed. Let Mr. Skey administer opium, and apply some simple dressing to the ulcers, allowing the patient to move about, and, if the result prove that he is equally successful with myself, I will publish the fullest retraction of my former statements, and will apologise in any of the medical periodicals for having denied the value of the opium treatment. I will even go a step further than this. I will allow Mr. Skey to superadd to the opium any local treatment he likes, and if his cures are more rapid than mine I will most willingly and publicly acknowledge my error.

Whatever be the result of such a trial I think the cause of truth must gain, and one or other of us will have succeeded in disabusing our minds of a certain amount of error. If this challenge is declined on the

part of Mr. Skey, there remains no alternative but that we must agree to differ, and leave those of the Profession who take sufficient interest in the subject to make experiments for themselves, and judge between us.

I remain, your obedient servant,
GEORGE CRITCHETT.

Finsbury-square, July, 1849.

THE CHOLERA AND THE PRESENT POOR-LAW MEDICAL ARRANGEMENTS.

[To the President of the Poor-law Board.]

SIR,—Are our Medical arrangements at all commensurate with the present emergency?

This is a question to be answered negatively or affirmatively, at once and speedily. The urgent remonstrances of the Committee of the Poor-law Convention must prove to you how far from satisfactory is the performance of their functions, for their salaries are meagre, insufficient, and degrading to their Professional reputation.

The thief, who is carried off in his malarious prison by cholera, has a well-paid, well-accoutred physician to attend him previous to his dissolution; a jury of his countrymen are summoned to adjudicate over his remains, lest a shadow of a neglect within the walls have taken one iota from his quantum of animal life. Within those walls you have a dispensatory, a well organised medical staff, and every appliance to alleviate human suffering. I challenge the inspection of your union workhouses, at least the majority of them, and contrast the appliances of the one with the appliances of the other.

In some you *have no medicaments* ready for the trial, which may come on at a moment's warning,—in others, not a single apparatus for generating external heat to warm the surface and stimulate the expiring functions of the skin. You have no paid and efficient nurses in your crowded establishments, whilst the inmates of prisons have at least an able-bodied wardsman to raise the head and smooth the pillow of a dying fellow-sinner. Old crones who fall asleep when the first shades of evening steal into the chambers are not the persons to tend the choleratic during the night.

The twopenny-halfpenny remuneration per case which you give, will not insure the wholesome drug, or guarantee a praiseworthy attendance from your Medical Officers.

Summon, ye coroners, a jury on every pauper who dies, and strike an average upon the number of cases the Medical man has to attend for his salary, and you will find the pauper could not do well,—a more cold, calculating piece of injustice never having crept into the annals of administrative law. The intention of the Legislature to provide proper attendance upon the poor has been *subverted*, the recommendations of the Poor-law Commissioners themselves have been *perverted*, and a sanction has been obtained to the letting of districts at a sum which common sense points out as inadequate to every right-minded, right-thinking Guardian or Commissioner.

Come what may, we must for a season submit to the exigencies of our position, and do our utmost to alleviate the sufferings of those afflicted with cholera; but if the poor are well attended, it is at our own cost, not that of the public who have taken advantage of our competition with one another to plant a deadly thorn upon the back of the deserving pauper.

If the negative of the question first proposed in this letter has been proved, it behoves you, Sir, to organise your Medical staff and pay them honestly. Wherever there is disease, there is also filth. Give powers to your officers to insist upon its immediate removal; make them real officers of health. In every Union workhouse fit up a proper dispensatory, and supply it at the cost of the Union with every necessary. Do not throw the charge of the drugs, and bottles, and ointments, and poultices, as now, upon the ill-paid Medical officers. Place at their disposal every implement which the prison contains to sustain the powers of a sinking frame, and let not the reproach remain that criminals *may live*, but the pauper *dies*.

This pen may write too boldly and too freely, but it writes in sincerity.

On the verge of an impending danger, let the public feel the abhorrent contrast between the Medical relief in prisons compared with that of Unions. Where one hundred prisoners, (for these are facts,) are attended for a sum, one thousand paupers are attended for the same. When a body of infantry, in all the vigour and strength of manhood, have three Surgeons to attend them in sickness, and at a cost of 500*l*. per annum, and every drug provided, it is a scandal to find, that the Commissioners have sanctioned the appointment of Surgeons to districts in which there are 8,000 or 10,000 ill-fed, ill-clad paupers liable to every possible complaint from innate poverty, for sums varying from 30*l*. to 50*l*.; and the poor doctor finds horses and drugs out of this degrading recompense, if recompense it can be called.

Now, Sir, is the time to consider what is to be done. You may say the rates will not bear augmentation, and you abhor a call upon the Consolidated Fund; so do I. Charge the Medical relief wholly upon the Unions; stay the cost of removals; and lessen the legal expenses; and apply the sum saved to the alleviation of suffering, and the provision against the invasion of epidemics. Pay so much per head on the relief list; pay by distance how you will, provided only you prevent the decimation of the pauper population by a good and wholesome system of Medical relief—a system less riddled by time, more able to resist the attack of foes so destructive as cholera and typhus.

I remain, Sir, your obedient servant,
ALFRED EBSWORTH.

MEDICAL WITNESSES IN CRIMINAL PROSECUTIONS.

[To the Editor of the Medical Times.]

Dr. Letheby's Second Lecture on the Chemistry of Poisons, reported in the *Medical Times* of July 14th, 1849, he speaks of some of the circumstances which tend to increase the crime of secret poisoning, amongst which he enumerates, "a want of watchfulness on the part of medical practitioners," the "gross negligence of many of our county coroners," and "the indisposition of judges and juries to convict." To medical practitioners are attributed carelessness, ignorance, or indisposition to be engaged in a criminal prosecution. Passing over the two former, I think it may be shown that medical men have little inducement, voluntarily, to engage in investigations likely to lead to criminal prosecutions. Their treatment by Coroners since the passing of the Act of Parliament entitling them to remuneration for giving evidence, has been every way calculated to cause reluctance in entering upon such service. Medical men are considered the servants of the public, but there is a duty also which they owe to themselves. Formerly, their evidence was taken in almost every instance of violent or sudden death, and they made the necessary investigations, with the almost certain prospect of being required to attend the Inquest. It is not so now. Since the Act of Parliament provided for their pecuniary remuneration, their evidence is seldom taken on ordinary occasions. Medical men may be called in by the friends of the deceased, or by officious neighbours. They may, if they please, investigate the causes of death, and prepare themselves to give evidence; they may even be officially informed of the time of the inquest, and warned to hold themselves in readiness to be called upon; and, after all this loss of time, and perhaps considerable research, they will not unfrequently find that the inquest has taken place, and their evidence been dispensed with. This is the experience of the Profession in most parts of the Kingdom; it is part of the working of the Act, and is little calculated to encourage the watchfulness which is represented as their duty. If they do manifest indisposition to be engaged in a criminal prosecution, is there not sufficient cause? Their time must be of very little value if it is not a serious loss to be so engaged. The remuneration to which they are legally entitled is in no degree commensurate with the inconvenience, anxiety, and responsibility. Besides this, in the present state of our penal laws, it must be contrary to all their best feelings to take any part in proceedings that may result in subjecting an immortal being to a premature death.

The next circumstance to which the lecturer attributes the increase of poisoning, is the gross negligence manifested by many of our county coroners, the usual character of "Crowner's quests," and the indefinite form of their verdicts, of which he speaks in terms of great contempt. It is, indeed, impossible that such investigations can be satisfactorily conducted without the superintendence of a conscientious and enlightened coroner, a respectable and intelligent jury, and the best evidence that can be obtained. Many inquests have not the advantage of such a coroner, and too often the juries are, in part at least, composed of men wholly incompetent to take a clear and enlightened view of a difficult case, or to understand the nature and value of evidence.

Lastly, I shall notice "the indisposition" which, the lecturer says, "exists on the part both of judges and juries to convict" Is not this indisposition to convict honourable to them? It can scarcely be supposed to arise from any other cause than that previously alluded to as affecting Medical men, the state of our criminal code. If there was a scale of punishments in some degree proportioned to the atrocity of the offence, leaning rather to the side of mercy than of cruelty; and if that scale contained no punishment which was inconsistent with justice, sound policy, and the principles and precepts of Christianity, fewer persons would feel such reluctance to prosecute, to give evidence, or to pronounce a verdict of guilty. So long as the punishment of death is recognised in our law, there will be difficulty in convicting criminals. Let punishments be rendered consistent with the benign principles and precepts of the religion of which this country makes such high profession, and the law will probably be not only easier to administer, but prove more efficacious for the prevention of atrocious crimes.

JOHN FOTHERGILL, M.R.C.S.

A WORD ABOUT CHOLERA.

"Our hospitals should be the altars of science, where her lamp should be kept constantly burning:—there is plenty of oil, if there were but zealous priests to tend the flame."—*Ross's Lectures on Asiatic Cholera.*

In offering a few observations on cholera, I am nowise affected with an overweening presumption. I feel merely a laudable anxiety to court inquiry and discussion, and to elicit opinions which, when I find them the most rational, I at once most freely and most readily espouse. I am one of those, Sir, who think that there is *always* something to be acquired in our Profession; and I am one of those who seek every opportunity to search after and to acquire it. With this short apology I wish to propose a few questions.

Can the respiratory function of our "third lung," the skin, as well as that of the true lungs, be so far affected as to occasion cholera? We know that the capillary circulation throughout the cutaneous surface in that disease is remarkably feeble:—heat is driven from without inwards, and there is an arrest of the usual exhalation (insensible perspiration.) We also know, that in this disease, oppression at the chest—a sense of sinking—a collapse of respiration as it were, are very remarkable. Now, the chief difficulty seems to be, what is it which interferes with these functions? It seems to me, that after all the theories broached upon the matter, "the defection in atmospheric electricity," as stated in France by M. Maussam, or "the subtraction of *animal* electricity," as maintained by M. De Chavagneux, are the most probable. And here, *par parenthese*, I deem it necessary to observe, that I do not hold with the French school, nor with the Wilson Philips of the English, the very materialist doctrine that nervous influence and animal electricity are *quid unum et idem*. Dr. Tring, in his "Principles of Pathology," has ably refuted that hypothesis. It has been widely believed, that animal electricity is merely a function intended to exercise determinate results, and that it has an inseparable and correlative connexion with that vital power wherewith the Creator has endowed animals,—the nature of which vital power we do not and cannot know, we do not and cannot understand. It has been also believed, that the "ganglia of the great sympathetic may be viewed as the system of organic life,—the vital system of nerves whose centre is the semilunar ganglion;"(a) or, in other words, a system which is made instrumental in distributing that electric influence for the due exercise and maintenance of the several organic functions. One of these functions (the principal one) is respiration. Now, let us ask, is atmospheric air so modified by a deficiency of electricity, or is the abstraction of animal electricity so powerful as to hinder or disturb this function—the pulmonary and cutaneous capillaries losing their accustomed stimulus from the ganglionic system—and this system losing its accustomed instrumentality in supplying it? Again, whereas, "1st. the blood of the vena cava, superior and inferior, is drawn *towards the heart* during *inspiration*. 2nd. The blood is driven *towards the viscera* in the same *veins* during *expiration*. 3rd. The *arterial* blood is also driven towards the viscera *during expiration*." Let us ask, does the amount of *expirations* as to intensity and duration exceed that of *inspirations* in cholera? If so (and I think it can be maintained) that would account for the fact of the intestinal canal performing a function vicarious to that of the lungs, as in phthisis, but much more sustained as to quantity, and more anomalous and *sui generis* as to quality. Again, is the absent instrumentality on the

part of the ganglionic branches, which influence the *cutaneous* capillaries in *their* respiratory functions, to be found exercising a vicarious function in like manner in the intestinal canal? Now, as there is something given off in healthy respiration (pulmonary and cutaneous) which is bad, and something in exchange required which is known to be good; so, in the respiration of cholera (pulmonary and cutaneous), that which should be given off is not given off, or very imperfectly given off, and that which should be acquired is not acquired, or very imperfectly acquired. There is, then, an anomalous excitement in the capillary circulation of the intestinal canal—a sort of fever of the blood—a sort of *muco-enteritic* "sweating sickness," if I may be allowed the expression, whereby the blood is deprived of its water, and with the water of the salts which sustain its fluidity. All the secretions are altered, and arrested, and deprived of their salts and their acids. A deoxygenating process appears to be carried on, and this more particularly in that chemico-vital laboratory, the stomach, than elsewhere; for, here there is always a "burning" sensation complained of, in this disease, the evolution of heat, mayhap, from the combustion of hydrogen in the production of water. The salts of soda and potash from the bile, saliva, &c., &c., thus lose their oxygen. The acetic acid of the gastric juice loses it share too, while the hydro-chloric acid of the gastric juice gives off its hydrogen, and the free chlorine unites with the sodium and potassium to form chlorides which are eliminated in the rice-water, vomiting, and purging. The carbon is in excess in the blood in the shape of urea It may exist also in the carburetted hydrogen in the large intestines, and perhaps in the small intestines.

If a deoxygenating process, then, be the result of defective electricity, (or, for this is hypothesis, the result of *any other yet to be ascertained cause,*) to oxygenate the blood would appear to be the most rational mode of treating cholera. Dr. Stevens' system is entirely calculated to effect this object. The vehicle of the salts he employs is spring water, which in itself contains, besides its salts of soda and magnesia, atmospheric air. This vehicle he largely exhibits, thus decarbonising the blood at the same time that he restores to it its lost salts. Then the external aids of friction, heat, embrocations, &c., are, meanwhile, in active operation. The capillary circulation in the skin is excited, which was previously passive and quiescent—heat is restored—respiration becomes easier—health is finally established. So fully was I possessed of the idea that Dr. Stevens' was the only rational mode of treating cholera, that I determined on testing it when the disease afflicted this locality, and with the happiest results. Albeit unhonoured by an hospital appointment, and with locks unsilvered as yet, nevertheless, some six or eight private cases fell to my lot, and the termination of these cases convinces me that, under God's providence, the saline system deserves all the merit Dr. Turley ascribes to it.

Your very obedient Servant,

JAMES JOSEPH COPPINGER, M.D.

Cove of Cork, July 10, 1849.

MEDICAL NEWS.

APOTHECARIES' HA —Names of gentlemen who passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday July 19th, 1849.—Frederick Thomas Barkway, Gravesend; Charles Octavius Rowley, Barnsley; Henry Duncan Smith, Sandwich, Kent; Benjamin Tillyer Blunt Baillie, Dorchester place, New North-road; William Squire, Silsoe, Beds; William Tomlin, Nottingham; William Thompson, Drigg, Cumberland; John Hayes, Langton, Staffordshire; William Thomas Sampson Ingram, Hardy, Devonport.

ROYAL COLLEGE OF SURGEONS.—The following gentlemen, having undergone the necessary examinations for the diploma, were admitted members of the College at the meeting of the Court of Examiners, on the 20th inst.:—Messrs. James Goodchild Wakley, Harefield, Middlesex, (son of the hon. Member); Louis Joseph Mauran, London; Frederick Fallows, Belfast; Theobold Ringer, Laugharne, Carmarthenshire; Alexander George Cockburn Thiselton, York; Henry Saunders Grant, Northampton; Robert Powell, Bristol; Harvey William Dixon, Putney; David Grant M'Pherson, Bristol; John Wilcocks Waken, London; Henry Newcombe, York; Charles Terry, Bath; and Joseph Powell Swanwick, Prestbury, Cheshire.—The following gentlemen were admitted on the 23rd instant:—Messrs. Samuel Atkinson Brough, Marlborough, Wiltshire; Robert Rook Prance, Hampstead; Charles Dering Nettleton Devonport; George Whitaker Walter, Market Rasen, Lincolnshire; George Thomas Jones, London; William Helps, Gloucester; Francis Harrison Walmsley, Manchester; William Walkinshaw M'Creight, Castle Wellan, County Down; Thomas Middleton Williams, Sherrington, Buckinghamshire; and Patrick James Mullarky, Sligo.

OBITUARY.—On the 18th inst., at Camberwell of Asiatic cholera, Robert Young, Esq., M.D. aged 47, third son of the late Vice-Admiral William Young.—On the 18th inst., at Portsmouth, after a few days' illness, W. Birrill, Esq., M.D., Surgeon to the Forces, H.P., aged 56.—At Stockton, on Wednesday week, Mr. Henry Milburn, Surgeon.

THE HUNTERIAN ORATION.—It is understood that Mr. F. C. Skey, of St. Bartholomew's Hospital, will deliver the annual oration in memory of John Hunter.

THE GENERAL BOARD OF HEALTH, at a full Board, received the President of the Academy of Medicine in France, M. Majendie, on a mission of inquiry from the French Government as to the progress and treatment of cholera in England. M. Majendie was accompanied by Dr. M'Laughlen. Professor Owen and Mr. Hodgson, of the College of Surgeons, were present at the conference.

THE CHOLERA.—This disease has, during the past week, been making fatal progress in the provinces and in the metropolis. In Liverpool and Manchester the deaths have been greatly augmented, and it has extended its ravages to villages, which, at its former visitation to this country in 1831, entirely escaped. It has been found, in most instances, that, wherever cholera cases have occurred, there has been a neglect of those measures which experience has proved to conduce greatly to the salubrity of towns and villages. Indeed, the latter require sanitary reform as much as our great cities. The dwellings of the rural labouring population are generally built without any regard to the health of the inhabitants—rarely being furnished with drains, and exposed on all sides to influences which act prejudicially to health. Hence, there is scarcely a village in this kingdom where typhus is not constantly located, and where it occasionally breaks forth with all the virulence of a plague. We subjoin the Registrar-General's report of the health of London during the past week. The deaths from all causes, which in the two previous weeks were 1,070 and 1,369, rose in the last to 1,741; a number which exceeds the average of the season by 733. In the two previous weeks the deaths caused by cholera were 152 and 339; but in the last they have reached 678, whilst the weekly average is only 8. Of the 678 persons who have sunk under the epidemic, 355 were males and 323 females, a more equal distribution than in previous weeks; the rate of increase is apparent in the fact, that in each of the last two weeks the mortality from cholera has been about double that of the week immediately preceding. The mortality from diarrhœa and dysentery also increases, the deaths in three weeks having been 51,100, and 146; while the weekly average of the season is not more than 84. The whole mortality from the three diseases, in last week, is therefore 824, and gives an excess on the average of 732, which almost exactly coincides with the excess of mortality from all causes, as stated above. The diarrhœa was fatal in a large proportion of cases, to children under two years of age. The increase of cholera is observed in each of the five metropolitan divisions, except the northern, which comprises Marylebone, Pancras, Islington, Hackney, and Hampstead; where the deaths in the week were only seven. But it is chiefly remarkable on the south side of the river, where the deaths in the last three weeks were successively 93, 192, and 443. In Newington they were 53; in St. George, Southwark, 51; in Bermondsey, 61; in Lambeth, 106. In Rotherhithe the deaths were 37, the same as in the previous week. Typhus continues near the average; whooping cough above, scarlatina and small pox considerably under it. Two persons died of privation; three of intemperance.

The mean reading of the barometer in the week was 29·692, and lower than in the previous week. The mean temperature was lower than the average, except on Monday and Tuesday. The highest occurred on the former day, and was 83·6. The mean of the week was 60·5, less by 6 degrees than in the previous week.

THE COOPER TESTIMONIAL.—We hear with great regret, that the subscriptions for a testimonial to record the esteem in which the late Professor Cooper was universally held for his honourable character and private worth, have only amounted to 120*l.*, a sum quite inadequate even for a painting or bust of the deceased, whose distinguished acquirements and ability as a teacher, as well as his invaluable services in the improvement and diffusion of surgical science, entitle his memory to be recorded either in a scholarship or prize.

MUNIFICENT GIFT TO THE UNIVERSITY OF OXFORD.—A truly splendid donation of an entomological collection, said to be one of the richest in existence, and of a valuable library on the natural and physical sciences, has just been made to the University by the Rev. W. F. Hope, M.A., of Christ Church, with the twofold object of enriching the new museum, and of assisting the University in the efforts about to be made for the more effectual encouragement of scientific studies. The whole collection of insects and books is said to be worth 10,000*l.*

THE PHARMACEUTICAL SCHOOL DINNER.—This dinner took place at the London Tavern, on Tuesday, the 17th of July, Dr. Copeland, F.R.S., in the chair. It appeared to give general satisfaction, and was numerously attended. The Chairman, in proposing "The Pharmaceutical Society," said, that the Society had already been instrumental in raising the qualification of Pharmaceutical Chemists, diffusing information among the members, and drawing attention generally to chemical science. When the objects of the Society were fully realized, as he trusted they would be ere long, one great source of anxiety would be removed from that branch of the Profession to which he belonged, namely, uncertainty in regard to the preparation of medicines. He congratulated the members on the acquirement of a Royal Charter of Incorporation, and trusted that, by a persevering application of the influence they possessed with Members of Parliament, an Act would be obtained, obliging all persons to pass an examination before commencing business as Pharmaceutical Chemists, and thus affording to the public a guarantee of their qualification. In the School of the Society, Professors of the highest eminence were appointed to deliver lectures on Chemistry, Materia Medica, Pharmacy, and Botany. There was also a laboratory for practical instruction and research, an extensive library, and a valuable and interesting museum. This School had already met with an amount of success which had been a source of surprise and satisfaction to the Medical Profession, considering that it was hitherto entirely a voluntary Institution.—[We sincerely rejoice in the success of the Pharmaceutical Society, believing that it will eventually be the means of raising the status and education of the great body of chemists and druggists in this country. We regret, however, to be compelled to say, that we do not think the Society has taken those energetic measures which it ought, to repress "counter practice." There has certainly been recorded an opinion against it; but this is not enough. So respectable a body of men as the Officers of the Pharmaceutical Society should sternly set their faces against a system which experience has proved to be fraught with many evils. The circumstance that there are some medical men who "compound physicians' prescriptions" should not induce the Society to neglect an imperative duty. A dispensing surgeon is not in danger of committing the serious errors of a prescribing druggist; hence the Society should use its influence to repress a system which, while it may be a source of pecuniary advantage to its members, adds nothing to their respectability.—ED. *Medical Times.*]

The Medical Directory.—We are authorised to state, that the proprietor of the "Medical Directory" has transferred the entire management of that work, in its editorial as well as publishing departments, to Mr. Churchill, in whose hands, we have no doubt, many of the difficulties which have militated against the getting up of the work correctly, will vanish. The value of such an index to the Profession is indisputable; its correctness is all that is required. Let, therefore, each member of the Profession contribute his quota of information, when called upon to do so by the annual circular, which, we suppose, will shortly be addressed to him, and the latter desideratum will be effectually attained.

Sweating Sickness in France.—In the department of the Marne the inhabitants are not only suffering from cholera, but also from a form of sweating sickness, unattended, however, with danger. It is characterized by excessive perspirations, no eruptions, except in a few rare cases. It generally lasts three days, convalescence setting in on the fourth day. The only danger attending this malady follows, it would seem, on a too early administration of solid food—the least indigestion appearing to transfer the flux from the skin to the intestinal canal, and so to induce cholera, which may then prove fatal in twenty four hours.

Highland Agricultural Society.—A general meeting of this Society was held at Edinburgh on the 11th inst., at which an interesting address was delivered by Mr. Finnie, of Swanston, on the advantages of Chemistry in Agriculture. The speaker, in the course of his address, lamented that farmers appear so sceptical, as to the benefits to be derived from the application of science to agriculture; and he cited many instances to show that the greatest advantages have resulted from the use of chemistry in analysing manures, and adapting them to various soils. We are not surprised that the farmers in Scotland appear to think little of the application of science to agriculture. Most of their brethren in England have fallen into the same error. We attribute this to the statements which some few years ago were diligently put forth, as to what artificial manures and the analysis of soils would do for the farmer. He has, to a certain extent, been disappointed; and hence he his disposed to trust alone to the experience of the past, rather than to commit himself to the guidance of science for the future. Agriculture, we conceive to be somewhat like medicine; it requires the combined aid of science and experience to bring it to the highest state of perfection.

Blistering Collodion.—A substitute for the ordinary blistering plaster has just been introduced in Paris. It consists of a mixture of collodion with cantharides, and is prepared by digesting the cantharides in ether, the latter being afterwards mixed with gun cotton. The part to be blistered is painted over with the prepared collodion by a camel's-hair pencil.

Poisoned Water.—It is not generally known to the public that the carbonic acid, or fixed air, in water, decomposes lead pipes, and thereby imparts poisonous properties to the water. Within the past few months, Sir Raymond Jarvis, of Ventnor, had occasion to repair the pipes which supplied his mansion, when, to his amazement, it was found that the large leaden feeding-pipe was almost entirely eaten away by the water, and the interior covered with a white and poisonous crust. Sir Raymond has had the whole replaced with gutta percha tubing, which, from its extraordinary alkali and acid-proof qualities, will preserve the water perfectly pure. It seems remarkable that, at the moment when our sanitary movements have commenced with so much vigour, gutta percha should have come to our aid, not only as a means of preserving the feet from damp and wet, but also as a medium for supplying us with the best of liquids, water, untainted by the deleterious properties which we have endured by the use of leaden pipes.—*The Patent Journal.*

Death of Mr. Drouet.—This individual, who acquired an unenviable degree of notoriety in connexion with the Tooting affair, expired last week at Margate, of disease of the heart.

MORTALITY TABLE,

(Metropolis.)

For the Week ending Saturday, July 21, 1849.

Causes of Death.	Total.	Average of Five Summers.
All Causes	1741	1008
Specified Causes	1737	1005
Zymotic (or Epidemic, Endemic, and Contagious) Diseases	1002	302
Sporadic Diseases:		
Dropsy, Cancer and other Diseases of uncertain or variable seat	39	41
Tubercular Diseases	206	190
Diseases of the brain, Spinal Marrow, Nerves, and Senses	117	119
Diseases of the Heart and Blood vessels	36	29
Diseases of the Lungs, and of the other Organs of Respiration	87	81
Diseases of the Stomach, Liver, and other Organs of Digestion	67	76
Diseases of the Kidneys, &c	...	...
Childbirth, Diseases of the Uterus, &c	17	11
Rheumatism, Diseases of the Bones, Joints, &c.	6	
Diseases of the Skin, Cellular Tissue, &c.	1	2
Malformations	4	3
Premature Birth and Debility	29	22
Atrophy	35	[illegible]
Age	31	13
Sudden	19	8
Violence, Privation, Cold, and Intemperance	70	36
Causes not Specified	1	3

The following is the number of Deaths occurring from some of the more important special causes:—

Apoplexy	21	Heart	35	Pthisis	119
Bronchitis ...	29	Hooping cough	38	Pneumonia ...	43
Cholera....	678	Hydrocephalus	28	Scarlatina	27
Childbirth	1	Influenza	..	Small pox	4
Convulsions...	43	Liver	11	Stomach	5
Diarrhœa	131	Lungs........ ..	[illegible]	Teething........	10
Dropsy..	12	Measles	27	Typhus	53
Erysipelas ...	7	Paralysis . ..	15	Uterus	2

BIRTHS AND DEATHS.

	Births.	Deaths.	Deaths over Births.
Males	619	903	284
Females	594	838	244
Total......	1213	1741	528

METEOROLOGY OF THE WEEK.

Day.	Mean of Barometer.	Mean of Thermometer. Dry.	Ditto. Dew Point.	Difference between the Mean Temperature of the day and the same day on an average of 7 years.	General Direction of Wind. A.M.	General Direction of Wind. P.M.	Amount of Horizontal Movement of the Air.	Rain in Inches.	Electricity.*
Sunday	29·952	61·4	51·3	—0·4	N.N.E.	E.N.E.	Miles 70	[illegible]	Nothing shown.
Monday	29·932	67·3	52·3	+5·5	N.E.	N.N.E. E. & S.E.	57	0·00	Ditto.
Tuesday.....	29·987	62·6	51·2	+1·5	S.S.E.	S.W.	105	[illegible]	Ditto.
Wednesday.	29·86[illegible]	59·1	50·1	—1·5	N.N.W. W.S.W.	S.W.	13	[illegible]	Ditto.
Thursday ...	29·463	56·9	47·2	—[illegible]	W.S.W.	S.W.	80	0·26	[illegible]
Friday	29·158	57·9	47·7	—2·[illegible]	S.W.	W., N.W. N.E. & S.E	55	[illegible]	[illegible]
Saturday ...	29·762	58·9	50·[illegible]	—1·1	S.W.	W.S.W.	113	0·01	[illegible]
Means ...	29·692	60·5	52·1	—0·3	Variable.		Sum 703	Sum 0·5	

* In this Column, A stands for Active; N for Negative; and P. for Positive.

TO CORRESPONDENTS.

"Etiquette, Ongar."—In conformity with the rules of professional etiquette.

"Juvenis" says:—"In some experiments I was making with the electro magnetic coil, a short time ago, I accidentally found that the nail was a non-conductor of the electro magnetic current; and as I had never noticed that it was a non-conductor of electricity produced by the common machine, I held my nail to the prime conductor, which received the sparks as readily as any other part of my hand. I then tried the same thing with a jar, placing my nail on the ball communicating with the inside of the jar, and found it a perfect conductor. Will you, or some of your Correspondents, be kind enough to inform me the reason that it should be a conductor of one and a non-conductor of the other fluid, as I do not recollect having seen any other substance named as possessing similar conducting powers?"

"Dr. Lees, Ashton-under Lyne," in answer to "M.D. and Chirurgus," on the value of University Degrees, remarks: "I maintain that a fair and strict examination (after a proper routine of education and diligent study on the part of the candidate,) is the best test of professional ability; but 'examination alone' is 'not the only true test of qualification.' Your pages frequently contain advertisements from gentlemen ready, for a small consideration, to polish the bluntest intellect up to the 'sharpness' of London, St. Andrew's, or any other professors; consequently, the dissipated, indolent, or ignorant student, being crammed with his medical catechism, probably passes his examination with greater facility than the intelligent plodding student, whose wasted form and hectic cheek tell how zealously he has trodden the true path to future eminence."

"Medicus" complains that "M.D. and Chirurgus" is ignorant of the subject on which he writes. While he asserts that the different Scotch Universities undersell each other, the fact is, the price of the diploma is the same, £25. St. Andrew's is £3 more than the Edinburgh diploma. That of the Faculty of Physicians and Surgeons of Glasgow is only £7 7s.; and the degree of Magister Chirurgiæ, £10 10s. At Marischal College, Aberdeen, the diploma is only £10 10s., and many obtain it without residence or Latin examination. Our Correspondent asserts, that so far from St. Andrew's being afraid to reject candidates, it does more than Edinburgh. We think, with "Medicus," that, instead of quarrelling about the price and value of parchment, we should endeavour to make our medical examinations and institutions a credit and benefit to our common country.

"Mr. Wm. Gilbert, Kingsland road."—Communication received.

"A Subscriber, Halifax."—We are sorry to see such a circular as that forwarded to us. A more tradesman-like card could not be issued. The gentleman who issued it proposes attending midwifery cases for 7s. 6d., and to give advice and medicine to adults for 1s., and to children for 6d. Cheap physic is not always the best, and we hope the Halifax surgeons, for the honour of their Profession, will set their faces against a system adopted by the firm, "who, from their experience in the Profession and attention to business, hope to merit a share of public favour."

"Mr A. Palmer, Newcastle, County of Limerick," suggests the following remedies for Cholera, which, he says, he has employed with great success:—"Pills composed as underneath are to be given one every two hours, from the time the first attack of looseness in the bowels or vomiting appears; in the early stage I have seldom failed to check it by these, and even in a very far advanced stage have arrested the disease. Cold water the only drink, and this *ad libitum*.—℞ Acet. plumbi gr. ij., opii. gr. ss., camphoræ gr. ij.: m. ft. pilula, of course for an adult. I am aware that acet. plumbi and opium have been recommended by Dr. Graves, of Dublin, but I have nowhere seen camphor recommended or tried (except in "Ponsonby's Drops.")

"R. Aiton, Staffordshire."—1. The leaves of the belladonna must be dried. 2. The work referred to is a useful one.

"J. J. W., Lynn, Norfolk."—It is necessary to give only about a week's notice to the beadle of the Apothecaries' Company prior to examination. There are, however, many preliminary circumstances to be attended to in reference to the registration of certificates. Our Correspondent had better address a letter to the Secretary of the Company, who will give him all the information he needs.

"A Country Subscriber."—A description of the Varicocele Ring, invented by Mr. Wormald, was published some years ago in the "Medical Gazette." The number we cannot name.

"Dr. Mahood, Kingstown," has found that the most excellent vehicle for taking Cod Liver Oil is in new milk, and that the disagreeable flavour of the drug can easily be covered by the addition of one drachm of oil of orange-peel to every 8 ounces of the oil; he has found this, without any exception, the best form of giving it, in his own practice and that of others.

"Mr. Salter, Poole."—Communication shall appear next week.

Answers to a large number of Correspondents we must postpone to next week.

ORIGINAL LECTURES.

HUNTERIAN LECTURES
ON THE
GENERATION AND DEVELOPMENT OF THE INVERTEBRATED ANIMALS.

By RICHARD OWEN, F.R.S.,
Hunterian Professor and Curator of the Museum of Royal College of Surgeons, Corresponding Member of the Institute of France, &c.

[Reported expressly for the "Medical Times," and revised by the Lecturer.]

LECTURE X.*

GENERATION OF ANELLATA.—Characters of the Class and of its primary divisions.—Spontaneous fission of Nais and of young Nereids.—Androgynous generative system of the Leech and Earth-worm. Diœcious arrangement of the numerous but simple testes and ovaria in Tube-worms and Nereids.—Ova, cocoons, and metabolian development of the Leech and Earth-worm.—Development and metamorphoses of Nereids and Tube-worms.

MR. PRESIDENT AND GENTLEMEN,—From the low organised intestinal worms we pass now to the consideration of the generative economy of worms of a higher organisation, of those commonly called leeches, earth-worms, sand-worms, and tube-worms, nereids or sea-centipedes, aphroditæ or sea-mice, &c., constituting a very extensive, widely distributed, and varied class; but all vermiform, and all with the body partially divided into segments like little rings, whence the name *Annulata* or Annelides, which has been given to the class, and is now generally received; they are the "Red blooded worms" of Cuvier. The Entozoa, subsisting on the chyle or other living juices of higher animals, had a nutritive system which sometimes resembled in form and structure a ramified vascular system, but usually combined the digestive, chylific, and sanguiferous functions, and always contained a whitish, colourless fluid. In the Annulata we always find a distinct system of arteries and veins, aided by a propulsatory organ or organs. The Entozoa, being in contact with the vascular tissues of the higher animals which they infest, have no need of special respiratory organs; but in the Annellata these organs are always present, though in various grades of development, and diversely modified in structure: though always composed of vascular portions of the integument. In the leech and earth-worm, the vascular processes of the delicate integument are folded inwards, and constitute small respiratory sacs like rudimental lungs, opening by lateral spiracula: in the majority of the class, the processes of the integument are pulled outwards, and commonly ramified or tufted; sometimes radiating from the head, sometimes from the dorso-lateral parts of the body-segments, and commonly of a bright red or coral colour. With this state of the circulating and respiratory system, the locomotive powers of the annulated worms are proportionally developed. In most members of the class, special locomotive organs project from the sides of the segments, in the form of short tubular processes of the integument, forming sheaths for a bundle of protractile and retractile bristles. The nervous system keeps pace with the development of the muscular system, whose actions it directs; and we now find a regular and symmetrical series of aggregated nodules of nervous matter or ganglions; and with this grade of the nervous system we find a supra-œsophageal ganglion or brain receiving sensations from rudimental eye-specks, and also from exploring processes of the integument of the head, analogous to the antennæ of insects. And here is an instructive exemplification of the law of vegetative repetition, in this first introduction of antennæ into the animal kingdom: they are not only present in two or more pairs on the head, but in some annelides are developed from the segments of the trunk, and, though similar in structure to the cephalic ones, are not called "antennæ," only because they are not situated on the head. In insects where the antennæ are fully perfected, they are reduced in number to two.

The Annellata are divided into four groups, according to easily recognised characters:—

1. The *Suctoria*, or Leeches, in which the locomotive organs are in the form of prehensile discs, or suckers.

2. The *Terricola*, with short hooks of bristles for locomotion, but without external branchiæ.

3. The *Errantia*, having tubular setigerous feet for swimming or creeping, and also external branchiæ, from the position of which the order is also called "dorsibranchiata."

4. The *Tubicola*, in which the body being concealed in a commonly artificial tube, the branchiæ are confined to the head, which is adorned with a crown of beautifully-coloured radiating tentacula.

On the first appearance of the embryo annellide, it usually appears to consist of a single segment, which is chiefly occupied by a large mass of unmetamorphosed germ-cells. And these are not used up, as in higher animals, in developing the tissues and organs of an undivided or individual whole; but, after a comparatively slight growth and change of the primary segment, proceed to form a second and a third segment, of somewhat simpler structure, and go on repeating these, in a linear series, perhaps, more than a hundred times. So that we may have a seeming individual annellide consisting of many hundred segments, in which a single segment would give all the characteristic organisation of such individual, except some slight additions or modifications characterising the first and last of the series. Thus the annellides are more simple in their structure than they appear at first sight, especially before arriving at full maturity, when in certain species, as the leech and earth-worm, particular segments are distinguished by the development therein of the special male and female generative organs. With this characteristic mode of growth, by repetition of segments, we should be prepared to expect in these creatures great powers of repair after injuries and mutilations—powers which have been made the subject of many and ingenious experiments. In the works of Spalanzani and Bonnet, more particularly, you will find recorded the most striking results of such experiments. A worm cut in two was found to reproduce the tail at the cut extremity of the cephalic half, and to form a head upon the caudal moiety. Bonnet progressively increased the number of sections in healthy individuals of a small worm, the *lumbricus variegatus*; and when one of these had been so divided into twenty six parts, almost all of them reproduced the head and tail, and became so many distinct individuals. Sir John G. Dalyell has succeeded in artificially propagating a *Sabella*, or sand worm, in the same way. The small fresh-water Naids show great powers of repair and reproduction; these little worms have a paler colour of the blood, which in most Annellata is of a bright crimson colour; but through the transparent skin of these Naids you may clearly see the circulation of the blood. There are some species found in sand or mud, such as those that stain of a red colour extensive tracts of the Thames mud at low water; which, when submerged, habitually protrude the anterior half of their body, which is remarkable for its regular oscillating movement. Bonnet cut off the head of one of the Naids of this genus, which was soon reproduced; and, when perfect, he repeated the act; and again as often as the head was reproduced. After the eighth decapitation the unhappy subject was released by death; the execution took effect, the rear ductive virtue had been worn out. This series of experiments occupied the Genevese philosopher two summer months. With this power of reproduction of lost extremities is associated that of spontaneous propagation by developing and detaching new series of segments.

Spontaneous fission has now been observed to take place in almost every order of Annellata; and, in all, it takes place at nearly the same part, near the beginning of the posterior third part of the body; but, the formation of the new annellide is due to a process of gemmation of new segments, which proceeds from the last or penultimate joint. It is most common, or has been oftenest witnessed, in the little abranchial fresh water Naides. But, Otho Frederic Müller has represented a young Syllis (his *Nereis prolifera*) in the act, in his great work, the "Zoologia Danica." Gruithuisen has described the process in a *Chætogaster*, Oersted in an *Eolosoma*, M. Edwards in a *Myrianes* (Nereis), and Schmidt in a tubicolar Annelide, called *Filograna Schleideni*.

The place where the process of forming the new segments is to be carried on is soon indicated by a slight swelling and increased vascular action. If the head or anterior segment of the species be characterized by eye-specks, antennæ, a proboscis, or branchiæ, these are developed in a certain and always recognizable degree, before the final separation takes place. In the *Myrianes*, the coloured eyes indicate the young fry. In the cephalo-branchiate annellide the gills are shown, in the stage of fission represented by Professor Schmidt, as four pairs of articulated filamentary vascular processes. In the *Nais proboscidia* the characteristic proboscis shoots out from the nascent head of the young worm, which is thus duly armed before it is cast off to provide its own nutriment. The last joint of the young Naid is specially ciliated, like that of the mother; and the corresponding portion of the alimentary canal, has thick walls with numerous filamentary or vascular appendages. This gemmiparous segment resumes its procreative function in the parent as soon as the lineaments of the head of the first young Nais are established; and a second young Nais, with a rudimental proboscis, intervenes between the first and the original parent: sometimes even a third Nais is indicated by the elongation, swelling, and active vascularity of the last joint; and thus four generations of Naids may be seen organically connected, and constituting one compound individual. The compound individual is due to the succession of incomplete gemmations: the reproductive process is completed, and the compound is resolved into the single individuals, by spontaneous fission. The nucleated cells that are aggregated in the penultimate or proligerous segment form a significant feature in its organization. As long as the Annelides propagate by this primitive mode, they manifest no ovaria or testes. These are developed in those individuals which are propagated by gemmation and spontaneous fission, when the proper season for oviparous generation has arrived. M. Edwards observed, that a Nereis allied to *Myrianes* generated in succession six young from the same posterior segment, each of which developed the true generative organs, without the parent itself showing any trace of them. M. Quatrefages has noticed the same fact in a species of *Syllis*.

In many of the Annellides, therefore, the phenomena of Parthenogenesis are manifested in the immature state; and, since the individuals so propagated alone acquire the generative organs, an alternation of generations may here be affirmed of such species: the oviparous individuals producing eggs from which the gemmiparous individuals come, and these, in their turn, reproducing the oviparous individuals.

I next proceed to point out the chief modifications of the generative organs properly so called. And first, as to the generative organs of the leech. In the medicinal species (*Hirudo* or *Sanguisuga medicinalis*) may be seen a number of pairs of little grey rounded bodies, usually nine pairs, which are the testes. A little duct proceeds from each to a common longitudinal "vas deferens," which communicates near the anterior fourth of the leech with a small pyriform prostatic gland, from which is prolonged a filiform intromittent organ, which projects from the ventral surface of the twenty-fourth ring. But the leech is androgynous, and the female organs are situated behind this prostate and penis, between the seventh and eighth abdominal ganglia: they consist of two subspherical ovaria, two short oviducts, which unite to form a single oviduct that expands into a pyriform muscular uterus. The vagina opens upon the twenty-ninth segment. In the Naids the orifices of the male and female organs are in two pairs, situated about the anterior third of the body. In the *Nais proboscidia* the ovarium is included by the substance of the testis. Two cæca extend inwards, at the breeding season, from the two anterior generative pores, which are then found filled with spermatozoa grouped into fasciculi, and probably received from

another individual *in coitu*. The ova are carried out by long convoluted oviducts.

In the earth-worm the external characters of the generative organs may be clearly seen in Hunter's dissections. We perceive, here, that the generative apparatus is more concentrated in the earth-worm than in the leech, and more individualised than in any other animal of the Annelidous class. The three pairs of small opaque organs, which Hunter regarded as testes, may possibly be only "spermathecæ," like the anterior pair in the Naids. They are laden with spermatozoa during the breeding-time. The germinal vesicles and developing ova are found in the larger greyer-coloured cœca; each of which sends out a distinct short oviduct, and these combine into a common oviduct on each side, opening behind the orifices leading from the testes or spermathecæ. If a section of one of these ovarian sacs is made, it is found filled with a spongy matter in the centre, and the ova are situated in this. The common oviduct from each lateral series of ovaria terminates in the fissure upon the sixteenth segment, about one-third from the head. It is interesting to note here, that the condition and function of the oviduct in the earth-worm is analogous to the arrangement of the generative parts in plants. In plants the part answering to the oviduct is a distinct canal, communicating with the pistil, and serving to convey the pollen to the ova; but the ova afterwards escape by rupture of the ovarium, or by what the botanist calls dehiscence of the seed capsule. It is exactly so with the earth-worm; the so called oviducts serve to convey the impregnating principle to the ova, which escape into the abdominal cavity of the earthworm, by bursting through the ovarian sacs. In these sacs, however, there is always found a quantity of spermatozoa in different stages of development; and accordingly the generative organs of the earth-worm are open to two interpretations. The anterior organs may be regarded, as by Hunter and Cuvier, as the testes, or they may answer only to the spermatheca in insects; and, in that case, the true male organ may be that external, spongy part which surrounds the proper ovarium; and this would not be a solitary instance of such an arrangement of the essential organs of generation in the animal kingdom, but one which is very common in the androgynous Gasteropods. However, there is much room for research and experiment to clear up this difficult moot-point.

Both the leech and the earth-worm do enjoy a double or reciprocal coitus; the leech has a true perforated intromittent organ; the earth-worm has not. During the breeding season, however, two imperforate appendages are developed from about the thirty second ring; their base adheres intimately to the cellular tissue; they have no communication with the genital apertures; are developed only at the breeding season; and are deciduous. The second accessory organ is that thickened part of an earth-worm which is situated between the thirtieth and the fortieth segments; it is called the "clitellum," and, when two earth-worms are disturbed *in coitu*, the adhering clitella are the last parts to give way.

With regard to the dorsibranchiate and tubicular Annellides, many of these are diœcious. The sperm-sacs or testes are situated on the ventral aspect, between the layers of the ventral muscles. The development of the ova is more clear and obvious; because they are commonly remarkable for the bright colour of their vitelline mass; and the number of ova is so great, that the ordinary colour of the Annellide is changed at the breeding season. Thus, in the *Aphrodite cirrata*, Sars found that, in February, the three posterior fourths of the body were of a brilliant red colour on account of the great number of ova there accumulated. Neither testes nor ovaria have external ducts; the products of both are discharged by dehiscence into the abdominal cavity, and are excluded by pores situated near the base of the setigerous feet. In the Aphrodite, the ova pass beneath the dorsal scales, and there development takes place. There is but one known species of Annellide that exhibits external sexual characters, viz., the *Exogone* or *Cystonereis*. In the females, the middle segments exhibit pyriform sacs, attached to their ventral surface, which receive the ova after they are impregnated: the male is without these, and is smaller. The genus *Eunice* is viviparous, and the young escape from the ruptured skin of the hinder segments.

A few words now on the developement of the generative products. As to the spermatozoa, these are developed from a great number of cells connected together by a special mass, and studding its surface. Each cell is the seat of development of a separate spermatozoon; this in its growth pushes the cell wall outward, and the filamentary extremities diverge from the common spherical basis of the sperm-cells. Then, by mutual attraction, the tails become amassed together, but finally become liberated, and exhibit the individual spermatozoa.

I shall now bring before you a series of observations, made by Dr. A. Farre, on the generation and other phenomena of the spermatozoa of the common earth worm. He has very carefully traced these appearances, and has accurately figured them by the camera lucid, from which figures the diagrams have been prepared. I will read to you the letter which accompanied the drawings:—

"I think, in reference to the drawings of *Lumbricus*, that it would be more consistent with the objects that I had in view in making them, to limit my explanations in some particulars, for the following reasons. With regard to the accuracy of the figures I have no doubt. Each was drawn from the object under the microscope, with the camera lucida, so as to insure both form and relative size. Those which I left with you are selected from more than 300 figures, most of which were confirmed by several observations. The only difficulty is, in disentangling these from the mystery which is thrown over the whole process, in consequence of all the elements and stages of reproduction being found together at one and the same part of the body, for, on opening the ovary, everything, from the single spermatozoon to the almost perfect worm, may be found contained within it; and the number of observations which I have made has not yet sufficed to put the links together in an unbroken chain. To do this was my object in delaying the publication of my observations. I should at present like, therefore, to go no further than this.

"1st. The plate No. 1 represents what is observed in placing the contents of the testis between two slips of glass. In about ten minutes the whole mass is seen to heave and writhe with astonishing energy, the form of the movement being that of the peristaltic action of the intestines. Everything in contact with the spermatozoa becomes ciliated by them, one end of the filaments fixing itself whilst the other vibrates free. The result is, that if the body to which the spermatozoa attach themselves is fixed, such as the glass, on the margin of a mass of granules, a line of cilia is formed, whose action creates a strong current, and everything moveable is drawn into the vortex, and is seen drifting rapidly along. But, if the body to which they attach themselves is moveable, such as the globular bodies found in the testis itself, or those which occur in every part of the ovary, and which, being extracted from the latter, are placed, for the sake of experiment, amongst the spermatozoa from the testis, then the globular bodies soon become clothed with spermatozoa, whose free ends, moving rapidly, cause the whole body to rotate. A most remarkable object is thus formed, which continues for a considerable time in motion, clearing for itself a free area, and in this it revolves, whilst its revolutions are apparently assisted by the action of other spermatozoa, which, having attached themselves to the periphery of the cleared space, keep up a complete vortex, in which the centre body is partly a passive and partly an active agent. This remarkable property of spermatozoa, in performing the office of cilia, is, as far as I am aware, a new fact, and one which may serve to explain possibly the transference of the sperm fluid, or even of ova, of various animals, along surfaces or tubes not naturally ciliated. The drawing, No. 1, represents the scene which I have endeavoured to describe, but of the energy and vitality of which no mere description can convey any accurate idea. The observations were made in the month of June.

"With regard to the second drawing, showing the curled spermatozoa, I must beg you to use it only as illustrating what is already known of their developmcnt, of which it will supply you with a better serial example than has yet, I believe, been put upon paper. My reason for this is, that I would prefer waiting for these facts, to prove my conjecture right or wrong, before I hazard anything on the subject. In that case, to agree with the present notions on the subject, you have only to turn my drawing upside down, which will make figure 7 the first, and figure 1 the last of the series. Then figure 7 will show the exogenous arrangement of the (supposed) sperm-cells, as proved by pressure or drying; figure 6, the ordinary appearance; figure 5, the supposed expansion of the spermatozoa beginning; figures 4 and 3, further degrees of the same; figure 2, that which other observers consider the usual final arrangement; and figure 1, that which I saw most frequently in regard to the position of the spermatozoa on the spherical bodies usually considered to be the parent developmental sperm-cells,—the latter figure also serving to show the appearance produced by artificially applying the spermatozoa to the spherical bodies found in the ovary.

"The conjecture which I offered, as to the *order* of the changes here depicted, seems to get over the difficulty of an *exogenous* production of sperm-cells, and agrees with what may be observed *to a certain point* in artificially mixing the contents of the sperm sacs with those of the ovisacs. I have no doubt of the *series* of the observations,—the only question is, as to the *right end*."

(Diagrams of the drawings were referred to.)

In regard to the development of the ova and embryo in the earth worm; the ova, when they are impregnated, are discharged from the ovarium and fall into the abdominal cavity, being ultimately pressed on to a receptacle near the anal end of the worm. Dr. A. Farre has traced the development in several cases; and the stages in the development of the earth-worm are very analogous to those of intestinal worms. It appears that some earth-worms are developed before they are excluded, but this is not always the case. The whole of the process, however, is perplexed by a considerable number of parasites, gregarinæ, pseudo-navicella capsules, and others, so that it is one of the most perplexing fields for microscopic observation.

In regard to the leech, the generative phenomena is much less dubious. Mr. Quekett and others have found the spermatozoa developed in the same manner as in the ordinary Annellides, and probably the earth-worm. The ova of the leech are spherical, and exhibit, when found in the oviducts, the usual constituents of ova. There is a germ-yolk with a germinal vesicle and spot, a delicate vitelline membrane, and a chorion. When the ova are received into the uterus the germinal spot has disappeared, intimating that impregnation has taken place; then there is a slight contraction of the vitellus, and a central germ-cell appears, which clothes itself with the yolk. When the yolk has been progressively divided into many large lobes, a large clear cell appears in the centre, before the further subdivision of the yolk takes place, which cell lays the basis of the alimentary canal. The peripheral cells begin to form the dorsal and ventral surface of the integument. A particular spot of the superficies of the spheroidal embryo, which surface becomes covered by ciliated epithelium, is developed into a sucker which communicates with the stomach, and so the embryo nourishes itself with the surrounding albumen. The body progressively elongates, loses its superficial cilia, before it is excluded, and, by the development of the posterior sucker, becomes a little leech without further metamorphosis. It is interesting to observe, that the embryo is first ciliated, and with a mouth only, like a *Planaria*, before it takes on the complete form and characters of the leech.

The leech is oviparous; the fertile ova are discharged in groups of from six to fourteen, enveloped in a nidus or cocoon of mucus. The cocoon is

ovate, two thirds of an inch in length, and half an inch in diameter. It has a rough outer surface, but is smooth and slightly tuberculate within. In the month of August, conical excavations may be observed in the slime at the sides of the reservoir, in each of which there is a cocoon. In a few days after the ova have been thus expelled and protected, the young leeches are extruded. The formation of the cocoon is the result of a rather curious manœuvre in the leech. In the *Hirudo Vulgaris*, when the cocoon is about to be formed, the body is observed to be greatly contracted, both above and below the uterus; the included part swells, then becomes milky white, from the formation of a film, into which the animal, having attached itself by its anal sucker, forces, after some effort, the whole contents of the uterus. This being done, the leech elongates the anterior part of its body, and, thus loosening the enveloping membrane, withdraws its head as from a collar. It sometimes bends back its head, and, drawing the collar forwards, gently aids in its removal. The process usually occupies about twenty minutes. The cocoon is at first very elastic, and has no determinate figure. After the leech has attached it to some adjoining substance, it fashions it with its mouth into an oval form. The points of the cocoon from which the leech withdrew its head are weaker than the rest, and from these the young escape.

In most branchiated annelides, the embryo is excluded as a ciliated spheroidal animalcule. It lengthens, partially casts its cilia, retaining them arranged in cinctures or bands about both extremities. At the anterior end the eyes or eye-specks appear; the segments are indicated on the rest of the body; and the tubular feet and their bristles sprout forth; the annellide afterwards taking on the modifications which distinguish its family, its genus, and, finally, its species.

Thus, in the development of the sea-worms or Nereids, there is something which merits the name of a metamorphosis. Professor Lovén, in August, was surprised at capturing a little creature of the form above defined, girt by a double row of vibratile cilia. No indications of segments had at that time appeared. He thought, at first, that it might be some species of polygastric infusoria; but he found afterwards that the animal had a complete alimentary canal. He kept it long enough to observe other changes, such as the development of a head, with eye-specs, and then the formation of segments, each in four distinct masses; and the succession of these segments, rapidly developed, soon indicated an embryo of the annellate class, and one of the dorsibranchiate order, by the projection of tubercular setigerous feet.

As to the Aphrodite, in February, Sars found a small species, which produced richly-coloured ova, and he traced the successive development of these. He found that the ova escaped from small pores, and were received into a kind of pouch beneath the dorsal scales, and there underwent their development, and escaped. He observed the geometrical division of the rose-coloured yelk, and the clear spot in the centre of each successive division. The embryo is an active locomotive oval mass, with a little groupe of cilia, and an indication of an eye-speck to guide its course; after swimming freely for twenty-four hours the development of segments commenced. In the *Cystonereis*, in which the ova are incubated in marsupial sacs, the development of the animal appears to take place without that amount of metamorphosis which has been observed in other *Errantia*. First, there are two short tentacula, then three; then the animal elongates, and before it quits the marsupium, it presents a very cognizable miniature of the parent. The development of a *Terebella* and of a Serpula, has been described by Milne Edwards; and there, too, he observed certain metamorphoses.

With regard to the class *Annulata*, generally we see that the metamorphosis varies much in degree: thus in the leech the embryo takes on almost at once the characteristic form of the parent; in other Annellata the ultimate form is obtained by a successive development of segments; while in others, again, there is more change of form in the course of development. This should teach us caution in our generalisations as to the metamorphoses of particular classes. The chief point of interest in the developement of the Annellata is that the young of many species, when it has acquired the form of the parent, puts in action a power of parthenogenetic propagation by virtue of the retention of certain unchanged germ-cells or nuclei in the last integument of its body; that it does not develope male or female organs in its own person, but that these are developed in the young propagated by gemmation and spontaneous fission; so that in the Annulata we observe what Steenstrup calls alternate generation, although somewhat differently manifested than it was in the Entozoa or the Acalephæ.

General Medical Annuity or Relief-Fund Society.—At the Annual General Meeting of this Society, held at the Hanover-square-rooms, London, on Thursday, July 26, 1849, G. J. Squibb, Esq., in the chair, Mr. Daniel, of Newport Pagnell, the Managing Director, read an interesting Report, in which he lamented the apathy of the Profession to the objects of the Institution. He also suggested the necessity of founding a permanent Committee in London, which should now be considered the central point. Also, that the Rules and Regulations of the Society should be so revised, as to be rendered conformable to the Acts of Parliament especially founded for the protection of societies of this nature. The receipts for the past year amounted to 553*l*. 10s. 2d. Dr. Gardner proposed the first resolution:—"That the Report now read be adopted, printed, and circulated amongst the members of the Society, together with the balance-sheet." George Kelson, Esq., of Seven Oaks, Kent, seconded the resolution, which was carried unanimously. George Ross, Esq., of Farringdon street, proposed the second resolution: "That a Committee be formed in London, for the purpose of inquiring into the principles of the General Medical Annuity or Relief Fund Society, and that the said Committee shall consist of the following gentlemen, with power to add to their number, viz.:—Metropolitan—Dr. Webster, Dulwich; Dr. Gardner; John Propert, Esq.; James Bird, Esq.; George James Squibb, Esq.; Joseph Wells, Esq.; Peter Martin, Esq.; William Self, Esq.; Edward Headland, Esq.; T. C. Girtin, Esq.; J. H. Tucker, Esq.; C. F. Lord, Esq. Provincial — Dr. Burnett, Alton; Dr. Cowan, Reading; Dr. Roberts, Bangor; W. Lambert, Esq., Sowerby, Yorkshire; Robert Martin, Esq., Holbrook; John Rauson, Esq., Ipswich; Thomas Paget, Esq., Leicester; Francis Elkington, Esq., Birmingham; Charles Smith, Esq., Highworth; David Rice, Esq., Stratford-on-Avon; J. G. Leete, Esq., Thrapstone; J. H. Barker, M.B., Bedford; John Rogers, Esq., Newport Pagnell; E. Daniell, Esq., Newport Pagnell; G. H. Betts, Esq., Watford." Mr. Ross had looked for some time with great interest upon this Society, and he was satisfied that it was of a character peculiarly calculated to meet the wants of the Profession. It was not an Insurance Company, but a co-operative Society, furnishing, in the language of Mr. Daniell, an opportunity for the rich to help the poor. Mr. Ross then entered very fully into the merits of such an Institution, and although it was probable that Mr. Daniell's plan required some modification, its general principles were of the character he advocated; for the parties for whom Mr. Daniell sought to obtain help where those whose circumstances prevented them paying large premiums for annuities. Mr. Smith, of Hepworth, seconded the resolution. Mr. Martin, of Holbrook, proposed the third resolution—"That power be given to the said Committee, to remodel the Rules and Regulations if necessary, with a view of submitting them to the members for their consideration, according to Rule 17, and, in the event of their approval, to consult an Actuary." Mr. Ranson, of Ipswich, seconded the resolution, which was carried unanimously.

Medical Reform Bill.—In the House of Commons, on Friday, July 27, it was announced that a Bill for better regulating the Medical Profession would be introduced early next Session.

ORIGINAL CONTRIBUTIONS.

RESEARCHES ON INVOLUNTARY SEMINAL DISCHARGES, AND THE DISORDERS ATTENDING THEM.

By H. J. M'DOUGALL, Surgeon, Fellow of the Royal Medical and Chirurgical Society; formerly House-Surgeon to University College Hospital.

DISORDERS AFFECTING THE INTELLECT.

(Continued from page 588, Vol. XIX.)

The intellectual and moral faculties are, in many cases, among the first to suffer from excessive evacuations of the spermatic fluid, whether caused by masturbation, venereal excesses, or involuntary discharges. This disorder of intellect may assume various forms, from slight loss of memory, and diminution of the power of application and of concentrating ideas, to complete mental imbecility; and, when combined with disorder of the moral sentiments, as is frequently the case, these conditions are further complicated by the presence of various hallucinations, proceeding sometimes to such an extent as to render restraint necessary for the patient's safety. Such derangements are generally of a depressed character, showing want of tone in the system; and include what is described as hypochondriasis in its most extensive meaning.

In these cases there are usually present a dread of society, especially of that of females; a sense of incompetence to perform the most ordinary duties of life; a feeling of complete isolation, even in the midst of the most active scenes; a dread of the future, disgust of the present, and remorse for the past. The sufferers wander about abstracted and preoccupied with their own thoughts, generally reflecting on their complaints. When addressed they are irritable and morose. The most trifling circumstances excite querulous anger, especially directed against their relations and friends. They are enemies to all kinds of innocent amusements, being themselves unable to appreciate any enjoyment derived from society, which, on the contrary, constantly reminds them of their misfortunes. On the other hand, such patients eagerly seize every opportunity of talking of themselves, and of their complaints, especially if they can obtain any person with ever so little acquaintance with medical science as a listener. They are then diffuse and prolix in the extreme, dwelling on the most trifling symptoms, and relating with extraordinary minuteness every mode of treatment, rational or empirical, to which they have been subjected.

When hallucinations occur, the moral disorder often takes the form of distrust of relatives and friends; of self-accusation of frightful imaginary crimes, generally connected with the genital functions; or of a feeling of dread of ridicule which the unfortunate patient imagines himself the object of in all his relations in life. In such cases, there are often sudden variations in temper, the depression the patient suffers being by no means constant. One day, perhaps, he may appear to a certain extent merry and cheerful; on the next, he falls under the empire of the most gloomy thoughts and apprehensions. These changes have the most intimate connexion with—indeed, I may say depend upon—the frequency of the discharges, of whatever description they may be, as, indeed, the patients themselves remark when once they are made aware of the presence of such losses; for, in by far the majority of cases, they have not noticed the genital functions themselves, nor have their medical attendants made any inquiries as to their state.

The amount and intensity of intellectual disorder present varies much with differences of age and constitution. It is most marked, or, perhaps, more easily appreciated, in boys addicted to masturbation, than in persons of mature age; and is also very evident in persons who are suffering from spermatorrhœa, who are past the prime of life, and verging on its decline. Most of my readers will call to mind cases, in which boys of great intellectual promise, up to a certain age,—say twelve or thirteen,—quick at learning, and retentive in memory,

—leading their playfellows, and at the head of their class,—active, robust, and hardy,—between that period and the age of twenty-one, disappoint all the expectations of parents and friends, allow themselves to be beaten by others of apparently much less intellectual power, and frequently even fail in passing the ordeals required before entering on the profession or trade for which they were being educated. At the same time these lads become mopish, morose, and irritable, fond of solitude, languid, and unfit for exertion of any kind. Their general health also suffers in many cases; they become pale and emaciated; their faces, the forehead especially, covered with acne; their eyes sunken, and surrounded by dark circles. They complain of heaviness and weariness of the limbs in the morning, and often, if left to themselves, would continue in bed half the day. These disorders have been attributed to rapid growth, original faulty constitution, disordered nutrition, and various other causes. A careful inquiry will show that, in ninety-nine out of a hundred cases, when the symptoms I have just described are present, they arise from excessive masturbation.

There is one remarkable peculiarity about such cases, worthy of especial notice. The patients never look any person straight in the face. They never meet your gaze; and, however much you may endeavour to do so, you can never succeed in looking into their eyes. While talking to you on the most important subjects connected with their health, their looks wander round the room, first looking at one article of furniture, then at another. If sitting opposite a window, they look beyond you, and gaze steadily out of it; and, if they have no other resource, they fix their eyes on the ground, or begin to play with a watch-chain, or anything which gives an excuse for attracting their ocular attention. This symptom is, I believe, peculiar to advanced cases of spermatorrhœa, in which the discharges have been set up by masturbation, and is also present in cases of excessive indulgence in that vice. Spermatorrhœas, however far the case may have progressed, brought on by venereal excesses, clap, or other causes, presents nothing resembling this symptom; which, on the other hand, is almost invariably present where the disease has been brought on by masturbation. A knowledge of being impotent is not the cause of this dread of meeting the eye. Patients frequently come under my notice who are completely impotent, and are quite aware of it, in whom spermatorrhœa has been caused by venereal excesses, or clap, and who boldly avow their complaints, and feel no shame in speaking of them; but this is never the case when masturbation has been the cause of impotency. Whether the continued practice of this vice tends to deprive man of his moral courage, I must leave for psychologists to determine. I merely set down the fact here as I have observed it in practice; and, in my opinion, it is an important one, inasmuch as it at once throws a light on the origin of the complaint. I do not think I have ever been deceived on this point.

Spermatorrhœa affects the intellect of persons in the prime of life less than that of young and old people. The memory is weakened, and there is generally a considerable degree of abstractedness observable. In persons of studious habits, these symptoms are more evident than in those accustomed to the every-day routine of business duties. But one symptom in such patients is peculiarly distressing—their great irritability. The slightest circumstance out of the usual course puts them into an ungovernable fury—of short duration, it is true; but, during the continuance of which, they frequently do and say things to their nearest relations and best friends, which they never cease to regret after the paroxysm is over. Such patients are, generally speaking, the terror of all dependent on them, especially in their domestic relations. Anger is, indeed, a short madness with them, and unfortunately it is excited by little *contretemps* at which healthy men would only laugh. These accesses of rage are attended with the flushing of the face and heat of the head, symptoms which I have previously described. The patients are frequently under medical treatment for these and for other accompanying symptoms referred to the stomach, the liver, or the colon. In many cases, they are married men—fathers of families, and it is by no means necessary that they should be impotent. On careful inquiry, however, it will be found that the sexual powers have much declined, and are very irregular in their demands; at one time intercourse being comparatively frequent, while at another long intervals of weeks sometimes, and occasionally of months, elapsing without a single connexion. Sometimes in these cases there is weakness of the lower extremities, but this is more frequent in the next class of cases, viz., those in which spermatorrhœa affects the intellect in persons advanced in life.

The secretion of semen may go on in persons of strong constitution to an advanced period of life. It is by no means rare for men to become fathers after sixty years of age; of this, most of my readers will recall instances. I need not, therefore, enter into any argument to prove that the testicles continue to act up to the period of three score at least. It is, however, comparatively rare for persons to be affected with spermatorrhœa at this advanced period. The disease probably never *commences* so late in life; and, in cases where it has begun earlier, the patient is generally carried off by some other disease, to which the losses have predisposed him, before he reaches the age of sixty. Spermatorrhœa, after forty, is by no means uncommon, however. In such cases there is great loss of memory, inability to attend to the usual affairs, excessive irritability of temper, and very frequently hallucinations connected with ideas of loss of property, and reverses in life, as well as suspicions of near relatives and friends. In these persons, also, paralysis of the lower extremities is very frequent, and is shown by uncertain gait, stumbling, and, in some advanced cases, inability to walk at all without assistance. The dependence on the will of others, caused by this inability to move from place to place, greatly increases the excitability of temper, so that these patients, with their querulous complaints, are a pest to every one about them. However much their relatives may endeavour to lessen the burden of their disease, and lighten the hours of their confinement, all is set down as nothing, or as done from interested motives. From the failure of memory, present facts and the recollections of early life are confused together, and the patient is, of course, unfitted for any occupation requiring the exercise of even the most limited mental powers. The genital functions are either entirely abolished, or exceedingly irregular, an occasional intercourse, followed by a long period of quietude, being all that the patient is capable of. Nocturnal emissions, also, are rare,—indeed, in most of these cases they never occur,—the most common pollutions being during the passage of urine. The patients seldom refer their complaints to the genital organs, and on the other hand the medical attendant seldom inquires as to their functions. Supposed softening of the brain is the pathological condition to which all such cerebral disorders are referred—a disease which confessedly admits of little remedy, and, consequently, the patient goes down in the list of those to be visited daily more as a matter of course, and for the sake of a gossip, than for any inquiry into his actual condition, which is regarded as hopeless. Things may go on in this state many years before dissolution; the result of some acute disease puts an end to the patient's sufferings. Spermatorrhœa, *per se*, seldom kills. It is sufficient that it makes life wretched. But it does more than this. From the constant debilitating drain on the system, the patient is made more susceptible of the ordinary causes of acute disease; the absorbent system is most active, and takes up indiscriminately, poisonous, as well as healthy matters; the vital powers are low; hence the system is unable to withstand attacks which would scarcely affect a healthier individual with temporary indisposition. These results are undeniable, and are surely sufficient argument for insisting on inquiry into the state of the genital functions in all cases where the symptoms I have described are present. The only objections to such inquiry are, that it is unusual, and that in certain cases the patient would be apt to take offence at such *indelicate* questions. The first is no objection; the second cannot be held a valid one by any man who holds the interests of science, and the recovery of his patient, as the first object of his professional calling.

I have purposely omitted here the influence of spermatorrhœa on suicide, as it is my intention to make that point the subject of a separate paper on a future occasion. In my next, I shall bring forward some cases illustrative of the peculiar symptoms of spermatorrhœa, which I have described above.

24, Henrietta-street, Cavendish-square.

ELEMENTS OF STATISTICAL MEDICINE.

By GEORGE GREGORY, M.D., &c.

[To the Editor of the Medical Times.]

SIR,—The accompanying brief outline of Statistical Medicine was originally intended to form the concluding chapter of the sixth edition of my Work, entitled, "Elements of the Theory and Practice of Medicine." Circumstances, which it is unnecessary here to notice, interfered with its publication in that form. Should you, now, in the exercise of editorial discretion, consider it as worthy of a place in the columns of the *Medical Times*, I would venture, very respectfully, to claim for it, on the part of your readers of riper years, some small share of tender consideration.

The Sketch of Statistical Medicine which I submit, professes only to skim the surface of the science. It was designed for the service of students and junior practitioners. It was intended to show them how the varied forms of disease which Nosologists delight to display, may be formed into natural groups or families. It was written early in 1845, and has remained in my portfolio for half the period prescribed by Horace as the normal term of literary incubation. By such delay, even though thus sanctioned, it may have lost somewhat in interest; but, if it should chance to benefit the junior portion of your numerous readers, without offending the senior, I shall be amply repaid for the labour bestowed upon its preparation four and a half years ago.

I am, Sir, your obedient Servant,

GEORGE GREGORY.

No. 6, Camden-square, Camden New Town,
July 26, 1849.

Importance now attached to Statistical Inquiries—Average Mortality of England, of London—Mortality at Different Ages in Early Life; in the Prime of Life; in Advanced Life—Of Climacterics—Comparative Mortality of the Sexes—Comparative Mortality of Seasons; of Urban and Rural Districts; of Countries and Climates—Trades and Occupations—Comparative Mortality by Different Classes of Disease: Acute, Chronic, and Epidemic—Classification of the Chief Sources of Disease—Mean Duration of Human Life—Fluctuation in the Fatal Diseases of Early Life.

The increasing importance of statistical investigations induces me to think that a chapter which shall bring before the eye of the student, in one view, all the chief varieties of human malady, and afford him elementary instruction in the principal subjects with which Statistical Medicine is concerned, cannot fail to be useful and interesting. In the Introductory Remarks to my work on "Practical Medicine," (page [illegible]) the nature and objects of this branch of science were explained, and, on various occasions throughout the work, the results of statistical inquiries concerning particular diseases were briefly noticed. The chief object of the present essay will be to give the student some insight into the general results which have been arrived at regarding the mortality of the human race under the varied circumstances of age, sex, occupation, season, climate, and locality.

The term Statistics appears to have been first

used about the middle of the last century by a German Professor of the name of Achenwal, and applied by him to express a summary view of the physical, moral, and political condition of States. Some notion of statistical inquiries existed in the times of the Romans. According to Ulpian, registers of population, puberty, age, sex, disease, and death were kept with exactness by the Censors from the time of Servius Tullius to Justinian, comprising a period of ten consecutive centuries. But these registers refer to the citizens of Rome only, and not to the slaves. The results, therefore, apply merely to select or picked lives, not to the average mortality of the people. The nations of continental Europe have long enjoyed the benefits of a national registry; and, in a very imperfect way, our own country was cognizant of its advantages. From the year 1592, weekly Bills of the Mortality of London have been kept by the Society of Parish Clerks; but they comprised not births and deaths, but baptisms and burials. It was not until the year 1837, that the English Government introduced the Registration of Births and Deaths as a measure of national policy. It still applies only to England and Wales. Since the month of July of that year, registers of the births, marriages, and deaths, throughout England and Wales, together with the alleged causes of death, have been carefully kept. We can now, therefore, with the experience of these seven years, supply, from the most unquestionable sources, information both copious and accurate regarding the health of our own population, and the circumstances by which it is chiefly influenced.

Captain John Grant, of London, in 1661, has the honour of being the first writer who ever directed the attention of the world to these matters. He may, therefore, be considered as the founder of Statistical Philosophy. The annual reports by the Registrar-General of England, now amounting to six, enriched, as they are, with the copious and scientific illustrations of Mr. Farr, afford the most valuable aid to the cultivators of this branch of knowledge. In the subsequent remarks, I shall avail myself largely of the information thus obtained, and direct attention in a more particular manner to the medical statistics of our own country.

AVERAGE MORTALITY OF ENGLAND.

The average mortality of England, at the present time, may be stated to be 350,000, and that of London 47,000 per annum. As the population of England and Wales is nearly sixteen millions, and that of London 1,900,000, this gives an annual average mortality of 1 out of every 40 inhabitants for the metropolis, and 1 out of every 45 for the whole country. This is an astonishing decline in the rate of mortality, compared with the experience of former ages, and it presents at the same time a most favourable picture of the value of life in this as compared with other countries. The annual mortality of England, in the year 1700, was about 1 in 25. About the middle of the last century, from causes not well understood, it increased to 1 in 20. From that time to this, it has slowly, but steadily declined. In 1801, it was 1 in 35; in 1811, 1 in 38; and now 1 in 45; so that, in the space of about 80 years, the chances of existence are exactly doubled in London, a progress and final result which may fairly be considered as without a parallel in the history of any other age or country.

In Paris, about the middle of the last century, the mortality was 1 in 25; at present it is about 1 in 32; in Rome the annual deaths are as 1 in 25; at Amsterdam, as 1 in 24; at Vienna, as 1 in 22. The inhabitant of London, therefore, has twice as good a chance of living as the burgher of Vienna. The superior value of life in Great Britain does not appear to attach to any particular district or class of individuals. The upper and middling classes of society, the inhabitants of towns and villages, the agriculturist and the manufacturer, participate alike in the general good fortune.

It will not of course be supposed, that the rate of mortality is equal, or in any way approaching to equality in the various classes of society. Age, sex, and occupation necessarily vary it. It is influenced also, though to a less extent, by season and locality. Our next inquiries, therefore, must be devoted to ascertain the amount of these qualifying circumstances.

AGE.

Nothing affects the rate of mortality in any country so much as age. The proportion of children that die during the first six months from birth is, at first sight, scarcely credible. The deaths gradually diminish to the age of 10. From ten to fifteen may be viewed as the healthiest period of human life. The weakest plants in the nursery have now been weeded out. The dangerous process of teething has been completed. The principal epidemic disorders have, in a great degree, been undergone. Small-pox, measles, hooping cough, and scarlatina have removed their chief victims. Between the ages of 10 and 15, the annual mortality of mankind is nearly uniform. It increases in a marked manner between the ages of 15 and 20. In the subsequent periods of life some irregularities occur, but upon the whole the average amount of deaths continues pretty uniform from 15 to 85, when it suddenly drops. The deaths between 85 and 105, which may be considered as the utmost verge of human existence are few, but they diminish steadily with each year. The following table, extracted from the Third Annual Report of the Registrar-General of England, will show the progressive rate of mortality throughout England, at the several epochs of human life:—

Population of England and Wales (1840)		15,710,270
Births { Males	257,129	501,589
Births { Females	244,460	
Marriages		124,329

DEATHS.

Under 1 month	22,877	
From 1st to 3rd month ..	11,888	
From 3rd to 6th month ..	14,596	
From 6th to 9th month ..	12,067	
From 9th to 12th month ..	11,510	
Total under 1 year ..	76,328	
1 year and under 2 years ..	29,842	
2 years and under 3 years ..	15,952	
3 years and under 4 years ..	11,103	
4 years and under 5 years ..	8,222	
Total under 5 years ..	141,747	
5 years and under 10 years	18,459	
10 years and under 15 years	9,169	
15 years and under 20 years	12,345	
Total under 20 years ..	182,020	
20 years and under 40 years	19,714	
40 years and under 60 years	41,713	
60 years and under 80 years	55,806	
80 years and upwards ..	20,818	
	350,101	350,101

From this Table, we learn that more children die under the age of 1 month than between the ages of 10 and 20 years;—that more than a fourth part of the total annual mortality of any town or district happens to infants under the age of 1 year; and that rather more than half of the annual mortality takes place under 20 years of age. The same Table shows, that more males are born than females, in the proportion of 25 to 24; that the ratio of births to the total population is as 1 to 31; that the ratio of marriages to the total population is as 1 to 126; and, lastly, that there are somewhat more than four births to each marriage.

The following Table, calculated from the first Report of the Registrar-General will serve still further to illustrate the proportionate mortality at the several epochs of life.

Out of every thousand deaths there take place—

Of infants under 2 years of age	..	343
Of children between 2 and 15	..	121
Of adults between 15 and 30	..	113
— — 30 and 50	..	132
— — 50 and 70	..	146
— — 70 and 85	..	118
Upwards of 85 years of age	..	27
		1,000

RELATIVE AGES OF THE POPULATION CO-EXISTING.

The necessary result of the large mortality of infantile life is a marked disproportion in the relative ages of the population co-existing at any given period in any district, town, or country. The attention of statistical writers has, from a very early period, been drawn to this important point, and the greatest pains have been taken, by careful analysis of Population Returns, to obtain accurate results. It has been felt, that almost all the most interesting inquiries in statistics involve the previous determination of this question. A very large induction of facts has shown, that the proportion is pretty nearly the same in all countries. The influx of strangers (or advenæ) into particular localities, and a few other circumstances less important, occasionally affect the result; but these may be overlooked in that general sketch of statistical science which it is my object here to give. Mr. Farr has calculated that the proportion in London, at the present time, is as follows:—Among every thousand of the population co-existing, there are—

	Per Mille.
Of infants and children (under 15 years of age	323
Of adults	622
Of aged persons (60 years of age and upwards)	55
	1000

The bulk of the population, therefore, consists of adults in the prime of life. It may be said, that there are, living in the world, twice as many adults as children, and six times as many children as old people. The proportion ascertained for Sweden, in in 1830, was as follows:—Young persons, 33; adults in the vigour of life, 59; aged persons, 8 *per cent.* Here it will be seen, that the proportion of the aged is comparatively greater than with us.

Such being the relative numbers of the population co existing, it is a curious subject of inquiry, what is the annual *waste* in these three great divisions of human life, (youth, manhood, and old age). It is found to vary in different localities, but the following may be assumed as the average rate for England. There die annually, among those who are under 15 years of age, 40 per thousand; between the ages of 15 and 60, 16 per thousand; above 60 years of age, 97 per thousand. This, with the average of the deaths at different ages in London, for the four years 1838 to 1841 inclusive, is shown in the following Table:—

Deaths in London.		Average of 4 years, 1838 to 1841.
Under 15 years of age, 40 per 1000, or	1 in 25	475
From 15 to 60 ...... 16	1 in 63	341
Above 60 years of age, 97	1 in 10	184
		1000

This law may easily be made applicable to the affairs of common life. Thus, out of every company or association, consisting of 1000 persons in the middle period of life, (aged from 15 to 60,) 16 may be expected to die in the course of one year. Of every thousand young persons, of all ages under 15, 40 may be expected to die annually.

CLIMACTERIC PERIOD.

It has been a favourite notion with mankind, from a very early period, that some years were more influential on human life than others. The doctrine is now known as that of climacteric period or decay, the term "climacteric" being derived from the Greek κλιμαχ, signifying a step or ladder. There is an ascending and descending scale. The ascending climacterics are multiples of 7, viz., 7, 14, and 21. The descending climacterics are multiples of 7 or 9,—viz., 49, 63, and 81. The two latter are known as the grand climacterics. Traces of this doctrine may be found in the writings of Pliny and Aulius Gellius. It may reasonably be asked, what encouragement to such views does statistical science afford? We have already seen that 7 and 14 years may fairly be assumed as important epochs with reference to human mortality. The remaining climacteric periods receive, however, no countenance from statistics. Mr. Rick-

man, in 1831, found reason to believe that the decennial periods of human life were those which possessed a climacteric character. He perceived the mortality at 40, 50, 60, and 70 years of age, to predominate in a marked manner over those of the preceding or succeeding years, and this not in one locality only, but over all England. The more recent returns, being arranged in quinquennial periods, do not enable us to verify or to disprove the notion; but it is discountenanced by the best statists of modern times.

Influence of Sex on Mortality.—The disproportion of the sexes at birth has been already adverted to. It has not varied materially during the first seven years through which the national registration of this country extends, and we may, therefore, presume, that the fact is based on accurate observation. But, further, the same ratio, or nearly the same ratio, (that is, 257 males born to 244 females,) has been observed to hold good in all parts of the world where registers are kept. The disproportion of the sexes, however, striking as it is at birth, soon ceases; for, owing to causes which have not yet been explained, the deaths of male infants under one year exceed considerably those of females, and continue thus to exceed, though in a less notable degree, during the first three years of life. The following Table, extracted from the Third Annual Report of the Registrar-General of England illustrates very satisfactorily this curious fact:—

Deaths in England and Wales among Infants under 3 years of age, between July 1, 1839, and June 30, 1840.

Age.	Males.	Females	Excess of Male Deaths.
Under 1 Month	13,274	9,603	3,671
1 Month and under 12 Months	29,526	23,925	5,601
1 Year and under 2 years	15,304	14,538	766
2 Years and under 3 Years ...	8,125	7,827	298
	66,229	55,893	10,336

Hence it appears that in the first three years of infantile life, there is in London an annual excess of deaths among male children to the amount of 10,336. From another Table, we learn, that out of every 1000 deaths registered in the year 1839-40, there were 240 males who died under one year, and only 194 females. The disproportion of the sexes at birth is thus far more than compensated, even in the short space of three years, by the predominance of fatal disease among male infants. Between the ages of 20 and 40 there is a small excess of deaths among females over those of males. Nevertheless, the disproportion is never got rid of. The result of the whole is, that in every annual register of deaths, those of males exceed in a very notable degree those of females. The following Table shows the amount of such excess in England during three consecutive years:—

Deaths in England and Wales at all Ages.	Males.	Females.	Excess of Male Deaths.
Year ending June 30, 1838	170,965	164,991	5,974
" " 1839	169,112	161,895	7,217
" " 1840	177,929	172,172	5,757
Total in 3 Years	518,006	499,058	18,948

After this statement, it will not appear surprising that the number of females in any country should exceed considerably that of the male part of the population.

The disproportion varies in different countries and districts. The population of London by the Census of 1841 was as follows:—

POPULATION OF LONDON.—1841.

Females	996,558
Males	874,139
Total population	1,870,727
Excess of females	116,419

From this Table we learn, that out of a population consisting of 1,870,727 persons, there was an excess of more than 116,000 females. In round numbers, there are in London 9 females to 8 males.

A fact in statistics intimately connected with this, is the superior longevity of females, a circumstance well deserving of attention, which has been noticed from very early periods, and in all countries. There died in England and Wales, between 1st July, 1839, and 30th June, 1840, 5,247 females of the age of 85 years and upwards, whereas, at the same age, there died only 3,954 males. Among the females who died, 71 had passed the age of 100, but only 40 males. This superior longevity of females is not to be attributed to any difference in the original conformation of the female sex, for men are probably built of stronger materials than women, but to the smaller demand upon their vital powers during the middle periods of life, and doubtless also, in part, to the healthier condition and temperament of the female mind, and to the lesser amount of care and anxiety which falls to the share of the female. The excess of deaths among males during the middle and advanced periods of life, is obviously referable to the greater amount of labour which men undergo, and the more dangerous character of the occupations in which they engage. There are very few diseases common to the sexes, which carry off more females than males. Those which are alone worthy of notice in this respect are, consumption, cancer, and dropsy. The deaths in childbirth form but a very small part of the mortality among females. The result of the metropolitan registers gives only 1 death out 175 cases of childbirth.

INFLUENCE OF SEASON ON MORTALITY.

In all countries season exerts a certain degree of influence on the rate of mortality. This influence is much more strikingly displayed in tropical countries (which have properly but two seasons—the wet and the dry) than in temperate climates, where four seasons are distinguishable. In all healthy localities; that is, in all places not subject to malarial influence, the proportion of deaths is greatest in the cold months.

The following Table exhibits the influence of Season on Mortality in London:—

Deaths in London.	1st Quarter.	2nd Quarter	3rd Quarter.	4th Quarter.	Total.
In 1838	15,611	13,109	11,397	12,581	52,698
1839	11,778	11,023	11,236	11,401	45,441
1840	11,797	10,741	11,044	12,699	46,281
1841	13,713	10,404	10,406	10,761	45,284
Total	52,899	45,277	44,083	47,445	

From this it will be seen, that in London the first quarter of the year is the most unhealthy, then the last quarter, then the spring quarter, while the autumnal quarter proves the most favourable to health. It will be seen, at the same time, that the amount of variation is not great in any year. Indeed, in the year 1839, the difference is scarcely perceptible.

A reference to the Statistical Tables published by the Army Medical Board, will show a very different state of things in Jamaica:—

DEATHS IN JAMAICA AMONGST THE BRITISH TROOPS IN EIGHTEEN YEARS.

(1817 to 1827, and 1830 to 1836.)

During the months of Jan., Feb., and March	1,201
— April, May, and June	871
— July, Aug., and Sept.	1,728
— Oct., Nov., and Dec.,	2,166
Total	5,966

Jamaica is an unhealthy locality, subject to malarial influence in a very remarkable degree. Now, here we perceive that a different order of the quarters prevails in respect of mortality. The six latter months are much more unhealthy than the six early months of the year. The order of the months, in reference to mortality, is as follows:—November, December, and October; August, September, and July; January, February, and March; June, May, and April.

In the East Indies, and in all tropical regions subject to periodical winds or monsoons, the relation of mortality to season follows a yet different law. There it will always be found that sickness and mortality prevail most when the monsoon is at its height. The crisis of a monsoon is characterised by violent storms of wind, thunder, and lightning, and the fall of torrents of rain. The earth becomes saturated with moisture, and vegetation advances with amazing rapidity. This is the sickly season. There are in the East two monsoons: the first, or south-west monsoon, blows from April or May to October; the second, or north-east monsoon blows from November to March. In Ceylon, from the peculiarities of its geographical position, the south-west monsoon is much more destructive to human life than the north-east. The following Table shows the effects of season on mortality in that island:—

DEATHS IN CEYLON AMONG THE BRITISH TROOPS DURING A PERIOD OF TWENTY YEARS (1817 to 1836 INCLUSIVE.)

During the months of Jan., Feb., and March	352
— April, May, and June	627
— July, Aug., and Sept.	452
— Oct., Nov., and Dec.	458
Total	18,889

From this Table we perceive that the second quarter is in this climate the most fatal to human life, then the fourth, then the third, while the first three months of the year are comparatively healthy. The amount of sickness and mortality is almost everywhere proportioned to the quantity of moisture in the air. The months when in Ceylon the greatest amount of rain falls, are April, May, and June. The monsoon is at its heighth in May, and May is the most unhealthy month of the year. Of the 72 inches of rain which fall annually at Colombo, the quantity in each of the months January and February does not exceed 1½ inches. March is the healthiest month of the year. Then follow in succession January and February. Difference among the remaining months is not very perceptible. The deaths in March were 93; in May, 242. The influence of season on mortality is here shown in a very unequivocal manner. Every locality, however, exhibits some peculiarity in respect to this law.

COMPARATIVE MORTALITY OF DISTRICTS.

One of the circumstances which everywhere affects the rate of mortality is the density of the population. Seaport and manufacturing towns which contain a dense mass of population converging to a centre are always more unhealthy than cities in agricultural districts, spread over a wider extent of ground. The health of suburban and rural districts is always greater, *cæteris paribus*, than that of towns in their vicinity. The mortality of hilly districts and mountainous countries is, also, for a like reason, comparatively low. Illustrations of this doctrine may easily be found in the documents already adverted to. The five south-western counties of England contain a population closely approximating, in number, to the population of London. In 1838, the deaths in the metropolis were 24,597, to 15,220 in those rural districts. Now, it is found, that, on every square mile of the 70 which compose the surface of the Metropolis, there live 26,000 inhabitants. In the five south-western counties of England, (including Plymouth, Exeter, and several other large towns,) the number of inhabitants to the square mile is only 230; that is to say, on the same extent of ground occupied by 113 persons in London, there is only 1 in Devonshire or Cornwall. In the years 1838 and 1839, the deaths in certain of the larger cities of England were 197,474; while those in counties, containing as nearly as possible the same numerical amount of population, were only 129,628. The mortality in cities, therefore, is to that of rural districts in England as 197 to 129, or, more correctly, as 144 to 100; the density of the country districts being to that of the towns as 10 to 245. The diseases of childhood are twice as fatal in towns as in country districts.

INFLUENCE OF SOIL AND CLIMATE ON MORTALITY.

It is hardly necessary to say, that the average rate of mortality varies considerably in the different countries of the world. Many circumstances contribute to this general result,—the comparative comfort enjoyed by the mass of the population,

their occupations, the character of their diet, the structure of their habitations, &c.; but the nature of the soil and climate is that which exerts the most obvious and unquestionable influence. It is not the mere circumstance of atmospheric temperature that affects mortality so much as the amount of atmospheric humidity, and the swampy or otherwise unfavourable condition of the soil. It must always be borne in mind, however, that there are great diversities of human constitution adapted to the varying circumstances of soil and climate. The negro can live and flourish in a climate fatal to Europeans. The structure, not of his skin only, but doubtless of the internal organs, fits him for the region which he is destined to inhabit. On the other hand, the natives of the tropics rapidly succumb in the cold and variable climate of England. In all estimates, therefore, of the effect of climate on mortality, the constitutional character of the inhabitants must receive due attention. By reference to the Army Returns, (a) we learn that the mortality among the white troops in Jamaica for 20 years (1817 to 1836 inclusive) was 121 per thousand, while that of the black troops serving during the same period was only 30 per thousand; one-fourth of the mortality of the white race. The mortality of the slave population of that island was then estimated to be only 25 per thousand for all ages, which is the rate of mortality among the inhabitants of London. Sierra Leone, and other stations on the western shores of Central Africa, are destructive in a frightful degree to European life, as the late expedition to the Niger has too painfully proved. Nevertheless, in that same locality there is a large and thriving negro population. There must be something, therefore, in the character of the Negro constitution essentially distinct from that of the European; probably, as different as is the constitution of the Negro from that of the inferior race of animals. It does not consist with the design of this elementary sketch of Medical Statistics to detail the comparative healthiness and unhealthiness of particular localities. A great variety of circumstances must be taken into consideration in determining matters of this description, which can only be weighed and duly estimated by those who devote great labour and patience to the investigation.

INFLUENCE OF TRADE AND OCCUPATION ON MORTALITY.

This branch of statistical Medicine was early cultivated with considerable success. In 1713, Ramazzini, a physician of Pavia, wrote a treatise on the diseases of artificers; and the last century produced many other useful works on the effects of trade and occupation on health and longevity. Some of the best-ascertained results may now be detailed. It has been most satisfactorily demonstrated, that the greatest enemy to health and long life is poverty. In all epidemic visitations,—strikingly illustrated in those of typhus in Ireland, and cholera in England—the mortality falls with tenfold severity upon the poorer classes. But, independent of such rare events as epidemic visitations, the average of deaths among the upper classes of society is always proportionably below those of the working classes. The mortality of the western districts of London is considerably less than that of the eastern. In France, it is confidently stated, that of an equal number of infants taken from among the poor and those in easy circumstances, the proportions of deaths among the former is as 2 to 1. The records of the Equitable Life Insurance Office show, that the annual average of deaths among persons in the enjoyment of competence is not more than 1 in 82. Soldiers are, of all classes of society, the most obnoxious to severe disease and consequent mortality. The result of an investigation made by Mr. Edmonds, an eminent London actuary, into the loss sustained by the British army during the most active period of the Peninsular war, has shown, that the total deaths were 9,900 annually out of a mean force of 61,500 troops, being nearly 160 per thousand of those employed. Of that mortality, about 40 per thousand occurred in battle, or from wounds proving fatal within a short period after a battle, and 120 per thousand were from disease and other causes.

DEPENDENCE OF MORTALITY ON POLITICAL CAUSES.

No fact is better ascertained, than that periods of national calamity are accompanied with an increase in the average rate of mortality, and that national prosperity fosters an increase of population. Villermé, reviewing the great political events which have occurred at Paris during a succession of years, has ascertained, that whenever, from any cause, the mass of the population has materially suffered, not only have deaths increased, but births have diminished, and the mean duration of human life been shortened. In periods of prosperity the results were as uniformly opposed. Such is the intimate connexion which statistical science proves to exist between national and domestic calamity. Nothing more unequivocally demonstrates this principle, than the statistics of a slave population. Under no circumstances is it ever found, that a slave population augments itself. In our West India colonies, in former times, the population was only sustained by large and repeated immigration from Africa. The steady augmentation of the inhabitants of those European States which enjoy political liberties and good government, contrasts strongly, and most significantly, with the diminution everywhere perceptible in the population of the Turkish Empire. The best encouragement to the growth of the population will invariably be found in the existence of domestic comfort and competence, an exemption from mental anxiety and excessive bodily labour, coupled with a feeling of political security of person and property.

COMPARATIVE MORTALITY BY DIFFERENT DISEASES.

We are indebted to Mr. Farr for the following Table, exhibiting the comparative mortality by different classes of disease, throughout England and Wales, during the year 1839; and we may presume that the same rate prevails generally, at all times, in this country:—

DEATHS BY THE SEVERAL CLASSES OF DISEASE IN ENGLAND AND WALES.

Diseases.	Rate per 1,000.
Epidemic and Contagious Diseases......	202
Other Diseases of the General System ..	143
Old Age and Natural Decay............	119
Diseases of the Brain and Nervous System	138
" " Respiratory Apparatus ..	278
" " Heart and Organs of Circulation	10
" " Digestive Organs	62
" " Organs of Urine and Generation	22
" " Superficies..............	6
Deaths by Violence.....................	20
	1000

The deaths by acute, as compared with those by chronic, disease, offer a curious and practically interesting topic of inquiry. The former are liable to great fluctuations, according to the severity of the season, the epidemic character of the period under investigation, and other circumstances easily to be appreciated. But the uniformity of the latter, under all varieties of season, is a circumstance equally worthy of observation. The following table will give a general idea of the ratio subsisting between acute and chronic maladies in reference to mortality.

DEATHS IN LONDON IN 1841.

	Total.	Rate per 1000.
By Acute Febrile Diseases ..	20,144	444
By Consumption	7,326	162
By Violence	1,148	25
By Childbirth	345	7
By the several varieties of Chronic Disease	15,263	342
Sudden Deaths, Malformations, and other causes not specified	1,058	20
	45,284	1,000

From this Table it will be seen, that the acute febrile disorders carry off 44, while chronic diseases destroy only 34 per cent. of the population of London. Including consumption, and those forms of chronic ailment which are occasionally associated with fever, we are borne out in the assertion, that 75 per cent., or three-fourths of mankind, fall victims to fever, in one or other of its varied shapes.

The principal forms of acute febrile disease by which the population of England is carried off, are shown in the following Table, which exhibits, at the same time, the numbers reported to have died of each acute disease respectively, in London, during the year 1841:

DEATHS BY ACUTE DISEASES IN LONDON, A.D. 1841.

IDIOPATHIC FEVERS.		
Typhus Fever	1,151	
Remittent and Intermittent Fever	31	
Small-pox	1,053	
Measles	973	
Scarlet Fever	663	
Hæmorrhage	165	
Inflammation (General)	238	
		4,274
ACUTE AFFECTIONS OF THE HEAD.		
Convulsions (Infantile)	2,778	
Hydrocephalus	1,739	
Cephalitis	615	
Delirium Tremens	83	
Tetanus	20	
		5,235
ACUTE AFFECTIONS OF THE CHEST.		
Pneumonia	3,668	
Hooping Cough	2,278	
Croup, Laryngitis, and Quinsey	489	
Bronchitis and Influenza	885	
Pleurisy	93	
Pericarditis	30	
		7,443
ACUTE AFFECTIONS OF THE ABDOMEN.		
Gastritis and Enteritis	957	
Peritonitis and Hepatitis	118	
Thrush	260	
Teething	913	
Diarrhœa and Dysentery	543	
Cholera	28	
		2,819
ACUTE AFFECTIONS OF THE SUPERFICIES.		
Erysipelas	251	
Rheumatism	122	
		373
Total ..		20,144

It may be useful to present a similar tabular view of the principal and best defined of the chronic diseases by which the metropolitan population is carried off. It is impossible, however, here, for obvious reasons, to attain the same accuracy as in enumerating the acute diseases of the body.

DEATHS BY CHRONIC DISEASES IN LONDON, A.D. 1841.

AFFECTIONS OF THE GENERAL SYSTEM.		
Natural Decay and Advanced Age	3,373	
Debility	1,114	
Dropsy	1,720	
Mortification	241	
Cancer	373	
Purpura	12	
		6,833
AFFECTIONS OF THE BRAIN.		
Apoplexy	866	
Palsy	751	
Epilepsy	181	
Mania	43	
		1,841
AFFECTIONS OF THE CHEST.		
Asthma	1,351	
Hydrothorax	208	
Heart Affections	963	
		2,522
AFFECTIONS OF THE ABDOMEN.		
Jaundice	111	
Other Hepatic diseases	436	
Diseases of the spleen	3	
Ascites	31	
Ileus	130	
Tabes mesenterica and Atrophy ..	624	
Hernia	103	
Diseases of the kidney	234	
		1,872

(a) Statistical Reports of Sickness and Mortality in the West Indies, pages 44 and 50.

AFFECTIONS OF THE SUPERFICIES.

Rheumatic and gouty complaints..	190	
Scrofula and abscess	334	
Ulcers	55	
Tumor	100	
		679
Total		13,747

SOURCES OF DISEASE.

Careful reflection on these Tables will show, that there are three principal sources of disease and mortality. They are—

1. Original delicacy of frame, or those structural and functional peculiarities impressed on the individual at birth, and transmitted from one or both parents to the offspring. This is the fruitful source of convulsions, of hydrocephalus, of mania, croup, thrush, atrophy, but far and above all, of consumption. These complaints chiefly prove fatal from the period of birth to the age of 25 or 30.

2. The second great source of disease and mortality is to be found in the changes produced in the body by the mere influence of time. The mechanism of the human frame being fitted only for a limited period, gives way by wear. From such a source originate a very large proportion of the cases of apoplexy, palsy, asthma, dropsy, ileus, and aneurism, the several varieties of disorganised heart, liver, and stomach, and that numerous tribe of complaints known to the world by the name of debility and natural decay. This class of disorders proves fatal from the age of 35 to the utmost limit of human existence.

The third great source of disease and mortality is to be found in the agency of the specific morbid and terrestrial poisons, received into the body from without, operating independently of all original contamination, and attacking equally persons of all ages and habits. To this head belong the very numerous and fatal tribe of epidemic and endemic diseases,—typhus fever, remittent fever, small-pox, measles, scarlatina, hooping-cough, and cholera. One fifth of the mortality in London is occasioned by diseases traceable to this source. In tropical countries the proportion is even larger.

4. All other complaints may be arranged under a fourth head, or the accidental sources of disease and mortality, the principal of these being childbirth, accidents and injuries of various kinds, bodily labour and fatigue, exposure to cold, irregularities of diet and intemperance. Gout, rheumatism, erysipelas, delirium tremens, hernia, and a large proportion of the cases of acute inflammation, whether seated in the head, chest, or belly, belong to this head. Complaints, both of this and the preceding division may be looked upon in the light of accidents, as contradistinguished from the more natural forms of decay which constitute the first and second groups intowhich we have thus distributed the diseases of the human body. Nine-tenths of mankind are carried off by the three classes of disease first enumerated, leaving only one-tenth to be the victims of the latter section.

The twelve most fatal diseases to which man is subject in this quarter of the world are the following, and with some slight variation in their relative order, they have been the principal agents in thinning the population, from the earliest periods of which we have authentic records. They are, Consumption, Convulsions, Hydrocephalus, Pneumonia, Typhus, Asthma, Apoplexy, Palsy, Dropsy, Small-pox, Measles, and Hooping-cough. As the mortality in early life is so much greater than that in its subsequent epochs, we may reasonably expect to find the disorders of infantile life occupying the most prominent place in the catalogue of fatal complaints The following Table exhibits the twelve most fatal disorders occurring in the three great divisions of life; viz., its early, middle, and advanced periods; and the position of each disease on the scale indicates the relative proportion which, on an average of years, they bear to each other as the immediate or more obvious causes of death :—

TABLE of the FATAL DISORDERS in ENGLAND.

In Early Life, from birth to 15.	Middle Life, 15 to 60.	Advanced Life, 60 to 100.
1. Convulsions	Consumption	Natural decay.
2. Hydrocephalus	Typhus	Asthma.
3. Teething	Pneumonia	Bronchitis.
4. Pneumonia	Enteritis	Apoplexy.
5. Small-pox	Hepatic affections	Palsy.
6. Scarlet Fever	Dropsy	Dropsy
7. Hooping Cough	Hydrothorax	Debility.
8. Measles	Heart affections	Consumption.
9. Thrush	Childbirth	Heart affections
10. Croup	Cancer	Erysipelas.
11. Consumption	Asthma & Bronchitis	Mortification.
12. Tabes Mesenterica	Apoplexy & Palsy	Renal diseases.

One of the most interesting results which the statistical researches of modern times have disclosed, is the gradual improvement taking place in what has been technically called *the value* of human life. To ascertain what the French call the *vie moyenne*, or the age which a person at birth may be expected to attain, the rule is, to take a given number of persons, (say 1000,) add together the years they individually attained, and divide the product by 1000 (the number of persons). Proceeding according to this calculation, Mr. Finlayson finds that the value of human life, or the average age which 1000 persons in England attain at the present time, is 50 years. At Paris, among the easy classes it is 42. At Florence, the average of the whole population is not supposed to exceed 30 years. The Geneva Tables of Mortality, which have been kept with great care for a century past, show, from 1750 to 1800, the mean duration of life was equal to 34 years, 6 months, and 11 days. From 1801 to 1813, it was 38 years and 6 months; from 1814 to 1833, it was 45 years and 29 days.

Calculations have been made which tend to show, that the expectancy of life, or the *vie moyenne*, among the Romans did not exceed 25 years. If this be so, and there are good grounds for such a statement, it follows that the value, or expectancy of human life in England at the present time is double what it was in the time of the Romans.

Another mode of judging of the comparative healthiness or unhealthiness of any country, at any given period of time, is, to determine the *vie probable*, or the age at which one-half of the population is carried off. It was calculated by Mr. Rickman, that, in the manufacturing districts of England, where the population increases rapidly, but where the seeds of disease are abundant, one half of those born do not attain the age of twelve years. He found that one-half of the males born were dead at 7, half of the females at 17, giving 12 as the average. Such are the effects of density, confined locality, the habits, and occupations of a manufacturing people upon the health of the infantile population. In the West Riding of Yorkshire, the half of those born were dead at 18. The West Riding is a manufacturing district. In the North Riding, an agricultural district, where population is more stationary, the half of those born are not dead till the age of 38. In London, half of the deaths take place about the age of 20.

The increased value of infantile life, of late years, may be estimated by the following considerations :—In the 5 years extending from 1733 to 1737, the proportion of deaths under 2 years of age was as 393 to 1000. In Manchester it is still, from causes already adverted to, nearly as high, viz., 375 to 1000. But throughout England generally, the proportion is now fallen to 295 to 1000, and even in London it is as low as 290 to 1000. This exhibits an improvement of a most extraordinary kind, effected in the course of one century, and it gives strong grounds for supposing that a wide field for further improvement still exists. The cause of this marked increase in the value of infantile life in modern times must be sought for partly in the better nursing and education of children, partly in the influence of vaccination. The fatal diseases of declining life are and have been necessarily much the same in all countries, and in all ages; but fluctuations of a very important kind may be traced in the prominent disorders which thin the infantile population of this and other countries. Hooping-cough which, in the seventeenth century was scarcely mentioned among the fatal diseases of London, destroyed, both in 1838 and 1841, more than 2000 persons. Small-pox, which was the great devastating epidemic of the last century, has now, by the general diffusion of vaccination, lost much of its virulence. As a source of mortality, it has given place to scarlet fever. Any measure, therefore, which, like vaccination, closes more or less completely one avenue to death, serves indirectly to open another. It carries the infantile population forward to that period when it becomes obnoxious to another, and still more formidable tribe of diseases. The weaker part of the infantile population must be weeded out by one or other form of fatal malady. So, in like manner, the encephalic diseases, which were the great metropolitan scourges of early life in the last century, are now less fatal, but in their stead we have an increased mortality by thoracic affections, viz., pneumonia, hooping-cough, and consumption. The only disease, indeed, which retains the same place in the catalogue of fatal ailments now, which it held in 1644, is Consumption. This decay of the respiratory apparatus may be viewed as the great gulf into which all improvements in medical practice, and all ameliorations in the physical condition of mankind in their earlier years, tend ultimately to drive the population.

The law of Nature prescribes that every creature should be carried off by some form of malady. It happens to few only of the human race to sink into their graves after completing the full term of human existence, by a slow and imperceptible decay. By far the larger part of mankind perish by some acute and obvious cause shortening life, and of these the most common is the destruction of the respiratory organs. The lungs appear to be the weakest organ of the human body, and, consequently, that which gives way the first. No measures have ever been discovered capable of giving additional energy to the lungs. We must content ourselves, therefore, with looking upon this as a permanent law of the animal economy. The pulmonary system gives way first, and afterwards those organs supplied by the aorta; the usual order of decay being, first, the brain; secondly, the heart; thirdly, the liver; and, lastly, the kidneys.

I have already had occasion to notice the obligations which all statistical writers owe to the labours of Mr. Farr. The tables of Metropolitan Mortality which the Registrar-General publishes weekly, are models of statistical research, and contain a mass of instruction of which it is scarcely possible to estimate the value too highly. Not only are the causes of death carefully enumerated, but the ages and sexes are distinguished; the weekly births are specified; the localities subject to epidemic or other noxious influences are specially indicated; and the meteorological phenomena which may have contributed, more or less directly, to the hygienic results, are recorded with an accuracy which leaves nothing to desire.

The subjoined Table, with which I conclude this sketch of Statistical Medicine, presents, in one view, the condition of the Metropolis with respect to health and disease, for the first half of the year 1845. It has been prepared with great care, by one who has not spared his own labour in the task; but I beg to disclaim all share of credit in the work.

[The gentleman to whom we are indebted for the following Tables is Mr. Benjamin Smith.]—ED. *Medical Times.*

METROPOLIS.

TABLE showing the BIRTHS and DEATHS for the first HALF-YEAR of 1849, the several DISEASES, BIRTHS and DEATHS of MALES and FEMALES, AGE at DEATH, the DISTRICTS in which the DEATHS occurred, the TEMPERATURE and METEOROLOGY, and the INCREASE of POPULATION.

DATE. Weeks ending 1849.	ZYMOTIC* DISEASES.	SPORADIC DISEASES. 1.*	2.*	3.*	4.*	5.*	6.*	7.*	8.*	9.*	10.*	11.*	12.*	13.*	14.*	15.*	16.*
January 6	359	42	165	109	39	203	60	7	7	13	2	4	24	23	47	6	19
„ 13	407	58	210	150	42	325	63	15	12	7	3	7	18	24	70	3	26
„ 20	393	51	155	136	55	360	68	15	14	7	...	1	21	23	79	13	20
„ 27	329	54	175	150	22	245	63	14	13	10	2	4	16	20	45	8	23
February 3	346	33	169	110	41	203	43	10	9	8	1	5	20	20	52	20	21
„ 10	345	47	162	132	40	234	69	13	11	9	1	3	17	26	47	15	24
„ 17	333	56	170	131	50	236	69	14	11	14	...	5	28	18	50	10	26
„ 24	315	53	174	132	39	239	53	10	7	10	...	3	23	13	46	9	17
March 3	310	42	174	134	46	204	55	10	5	8	...	5	25	20	51	12	35
„ 10	243	45	172	104	25	223	62	15	5	4	2	3	35	16	30	10	37
„ 17	233	61	196	122	42	198	64	12	5	8	...	1	19	22	62	3	25
„ 24	236	38	174	130	41	179	59	18	11	12	1	2	26	29	51	3	30
„ 31	268	63	196	147	41	197	64	11	13	10	3	5	26	28	43	30	32
April 7	221	38	196	111	39	202	59	10	7	6	3	5	24	22	33	4	11
„ 14	241	37	197	144	38	198	66	11	6	5	3	1	16	24	49	7	21
„ 21	248	52	217	121	36	181	60	11	11	9	1	1	22	22	35	13	35
„ 28	233	43	107	127	42	194	65	6	9	4	1	1	16	22	44	14	25
May 5	248	46	193	118	34	161	50	13	10	8	3	3	26	16	33	1	16
„ 12	206	43	177	98	57	137	54	9	9	9	...	3	21	17	39	11	13
„ 19	236	49	187	123	40	169	58	11	9	8	...	5	27	13	43	10	14
„ 26	233	47	155	122	20	139	51	12	6	5	2	1	15	19	27	9	27
June 2	209	36	165	104	46	127	69	13	2	6	4	4	23	23	33	10	18
„ 9	251	34	183	120	43	102	60	14	5	13	...	3	22	24	34	9	49
„ 16	251	32	165	117	24	88	63	13	11	4	...	3	23	21	31	10	44
„ 23	277	37	177	121	31	119	58	8	5	4	...	4	24	23	27	16	43
„ 30	349	59	190	145	37	105	70	5	11	11	3	1	36	16	37	46	93
Totals......	7323	1190	4681	3257	1010	4898	1575	300	224	213	35	83	599	535	1127	330	842

DATE. Weeks ending 1849.	BIRTHS. Males.	BIRTHS. Females.	DEATHS. Males.	DEATHS. Females.	TOTAL BIRTHS.	TOTAL DEATHS from All Causes.	BIRTHS OVER DEATHS.	AGES AT DEATH. 0 to 15	15 to 60.	60 and upwards.	DISTRICTS. West.	North.	Central.	East.	South.	Mean Height of BAROMETER. (Inchs.)	THERMOMETER. Dry. (°)	Dew Point. (°)	Difference between the Temperature of the week and the same week on an average of 7 years. (°)	General Direction of the Wind.	Amount of Horizontal Movement of the Air. (Miles.)	Rain in Inches.
January 6	726	586	565	566	1312	1131	181	587	326	214	157	210	203	207	354	29·847	30·7	27·2	− 6·6	N.E.	535	0·24
„ 13	707	714	697	751	1421	1448	−27	695	441	306	209	251	211	302	465	29·328	39·5	36·0	+ 3·8	S.W.	1580	0·48
„ 20	[illegible]	715	640	705	1528	1345	183	628	405	307	190	255	211	272	450	29·783	46·6	43·5	+ 9·7	S.S.W. and S.	1310	0·25
„ 27	814	762	573	635	1576	1208	368	591	385	224	179	222	212	245	350	29·979	45·8	39·3	+ 8·5	S.W.	2215	0·17
February 3	733	710	580	557	1443	1137	306	575	342	199	215	192	189	215	328	29·952	40·6	36·7	+ 4·8	Variable	820	0·52
„ 10	846	827	554	602	1673	1156	477	574	381	239	181	253	191	256	315	30·286	45·6	43·8	+ 11·9	Variable	1000	0·03
„ 17	779	718	640	585	1497	1225	227	579	398	246	163	222	193	299	348	30·492	40·7	36·3	+ 4·0	W.S.W. and W.	555	0·00
„ 24	735	755	605	586	1490	1191	299	510	378	257	159	206	185	311	330	29·814	45·4	40.4	+ 5·8	Variable	1440	0·67
March 3	785	759	562	576	1547	1138	409	515	340	253	181	179	195	278	285	29·725	42·4	35·7	+ 2·7	Variable	3 days 335	1·48
„ 10	[illegible]	723	531	516	1514	1047	467	501	315	230	151	168	170	255	303	30·056	43·0	36·3	+ 3·9	S.W. and N.W.	Instrument broken.	0·12
„ 17	768	753	537	546	1521	1083	438	503	345	230	184	185	177	215	322	30·138	45·9	39·5	− 4·1	N.W.		0·00
„ 24	740	705	505	543	1415	1048	367	481	333	232	156	221	204	210	257	29·963	40·0	34·9	− 3·6	N. & E.		0·00
„ 31	799	822	616	625	1621	1241	380	608	383	250	157	219	255	294	316	29·427	40·2	33·4	− 4·5	Variable		0.25
April 7	647	578	507	487	1225	994	231	466	327	201	163	192	173	176	290	29·368	45·7	39·5	+ 0·6	S.E.		0.52
„ 14	767	639	512	544	1316	1056	260	487	350	228	142	185	203	260	276	29·382	41·8	38·8	− 2·7	Variable		0·34
„ 21	679	669	572	517	1348	1089	259	495	366	216	176	207	197	254	255	29·626	37·1	31·6	− 9·4	N. by W.		0·90
„ 28	776	752	533	525	1528	1058	470	476	344	223	179	198	195	201	285	29·519	45·9	40·4	− 3·7	S. and S.W.	440	0·46
May 5	801	721	525	461	1522	986	536	480	336	169	151	187	167	196	285	29·859	55·2	47·0	+ 3·2	N.E.	315	0·17
„ 12	756	723	474	431	1479	905	574	482	289	181	149	181	134	200	241	29·835	45·5	39·2	− 0·7	N.N.E.	705	0·06
„ 19	709	689	511	522	1398	1033	365	480	353	200	157	186	166	192	332	29·498	54·3	47·7	+ 2·8	S.W. & S.S.W.	935	0·67
„ 26	685	626	456	441	1311	897	414	428	294	174	151	195	152	172	227	29·818	56·9	49·7	+ 1·9	Variable	510	1·37
June 2	705	436	448	447	1354	895	459	447	290	157	156	184	138	117	230	29·978	60·3	53·3	+ 1·3	N. and S.W.	515	1·60
„ 9	689	702	523	448	1391	971	421	464	339	168	140	184	171	197	279	29·905	59·7	51·3	+ 0·7	E.N.E.	450	0·13
„ 16	720	723	513	399	1143	912	531	423	330	158	153	156	163	181	257	29·779	53·5	43·9	− 7·1	E.N.E.	450	0.01
„ 23	663	592	509	476	1255	985	270	471	344	164	163	173	161	180	305	29·890	59·2	47·4	− 1·4	Variable	505	0·00
„ 30	801	750	680	537	1551	1217	334	477	516	222	190	205	246	251	325	29·870	60·2	49·2	+ 0·3	Variable	475	0·10
Totals......	19377	18392	14408	14038	37769	28446	9551	13230	9250	5648	4350	5218	4859	6026	7993							

* Under the head "Zymotic Diseases" are included :—Small Pox, Measles, Scarlatina, Hooping Cough, Croup, Thrush, Diarrhœa, Dysentery, Cholera, Influenza, Purpura and Scurvy, Ague, Remittent Fever, Infantile Fever, Typhus, Metria (or Puerperal Fever), Rheumatic Fever, Erysipelas, Syphilis, Noma or Canker, and Hydrophobia.

Under the head "Sporadic Diseases" 1. includes Dropsy, Cancer, and other diseases of uncertain or variable seat. 2. Tubercular Diseases. 3. Diseases of the Brain, Spinal Marrow, Nerves and Senses. 4. Diseases of the Heart and Blood-vessels. 5. Diseases of the Lungs and of the other Organs of Respiration. 6. Diseases of the Stomach, Liver, and other Organs of Digestion. 7. Diseases of the Kidneys. 8. Childbirth, Diseases of the Uterus, &c. 9. Rheumatism, Diseases of the Bones, Joints, &c. 10. Diseases of the Skin, Cellular Tissues, &c. 11. Malformations. 12. Premature Birth and Debility. 13. Atrophy. 14. Age. 15. Sudden. 16. Violence, Privation, Cold, and Intemperance.

The five Districts of London enumerated in the foregoing Table are as follow:—The West District comprises Kensington; Chelsea; St. George, Hanover-square; Westminster; St. Martin-in-the-Fields; St. James. (Population, 300,711; area, 17·2 square miles.) The North—Marylebone; St. Pancras; Islington; Hackney; Hampstead. (Population, 375,971; area, 20·5 square miles.) The Central—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; City of London. (Population, 373,605; area 2·8 square miles.) The East—Shoreditch; Bethnal Green; Whitechapel; St. George-in-the-East; Stepney; Poplar. (Population, 392,444; area 8·8 square miles.) The South—St. Saviour; St. Olave, Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich; Lewisham. (Population, 502,548; area, 66·2 square miles.) Total Population, including 3,090 Police on duty, 1,948,369. Total area, 115·5 square miles.

METROPOLIS.

TABLE showing the relative MORTALITY in each of the EIGHT YEARS from 1840 to 1847, from ALL CAUSES.

Causes of Death.	1840.	1841.	1842.	1843.	1844.	1845.	1846.	1847.
All Causes	47,172	46,196	46,232	49,491	50,586	48,475	49,277	60,442
	Average 49,734							
Zymotic (or Epidemic, Endemic, and Contagious) Diseases	8,500	7,980	7,834	10,132	11,142	9,524	9,496	13,887
Dropsy, Cancer, and other Diseases of uncertain or variable seat	5,692	5,540	5,818	5,298	5,068	4,823	5,122	5,876
Diseases of the Brain, Spinal Marrow, Nerves, and Senses	8,036	7,797	7,651	7,872	8,113	7,755	7,906	8,274
Diseases of Lungs, and of other Organs of Respiration	14,190	14,413	14,235	14,680	14,920	14,637	14,368	18,460
Diseases of the Heart and Blood-vessels	1,019	1,021	1,069	1,262	1,594	1,719	1,781	2,123
Diseases of the Stomach, Liver, and other Organs of Digestion	3,458	3,418	3,442	3,764	3,523	3,815	4,350	4,616
Diseases of the Kidneys, &c.	248	244	330	316	378	481	512	632
Childbirth, Diseases of the Uterus, &c.	483	517	452	531	510	585	667	750
Rheumatism, Diseases of the Bones, Joints, &c.	319	262	283	331	531	343	196	550
Diseases of the Skin, Cellular Tissue, &c.	63	58	74	79	63	99	164	189
Old Age	3,538	3,447	3,436	3,609	3,201	2,959	2,241	3,132
Violence, Privation, and Intemperance	1,325	1,242	1,297	1,206	1,369	1,415	1,772	1,816
Favourable Years	1840	1841	1842	......	......	......	......	......
Average Years	......	......	......	1843	......	1845	1846	......
Unfavourable Years	......	......	......	......	1844	......	......	1847

HOSPITAL REPORTS.

KING'S COLLEGE HOSPITAL.

OPERATION FOR CLOSING ARTIFICIAL ANUS.

On Saturday last, we were witnesses of an extraordinary case of this nature, upon which Mr. Fergusson operated.

The following are the particulars which Mr. Fergusson related in the theatre before the operation. Several years since the patient, a young lad, had suffered from morbus coxarius on the right side. The disease had extended to the pelvis; suppuration had probably taken place around the rectum; the coverings behind it, had given way by ulceration, and had left an aperture communicating with an opening in the gut.

The opening existed on the right side between the sacrum and the back part of the ilium; it was two inches in length, and the gut could be seen protruding almost through it,—more especially when the patient made any violent respiratory effort. An orifice existed in the back part of the gut, in which the finger could be placed, and through which the whole of the fæcal matter was evacuated. A bougie could be passed from the anus through this false opening. No fæces ever came *per anum*, and the artificial anus had existed for four years. The disease in the hip joint had become cured, anchylosis having taken place.

Mr. Fergusson stated, that the patient had been sent up to him more as a curiosity than from any idea that he could do anything for him. He, however, thought that he might be able to close the opening, and he should endeavour to-day to cover in a portion of it; and if he succeeded in this, he should finish the remainder at a future day.

He then operated in the following manner:—The soft parts, which were lax and healthy, were dissected upon each edge of the opening, so as to permit them to be brought into contact. The edges of the wound were then well passed, and two harelip needles were introduced, by means of which the lower half of the aperture was well closed without any tension being exerted on the parts. We shall probably have another opportunity of relating the progress of this case.

PROGRESS OF MEDICAL SCIENCE.

FRANCE.

[From our own Correspondent.]

CHOLERA.

While the cholera is fearfully on the increase on your side of the Channel, it is here completely stationary, or exhibits variations of an insignificant character. Thus, for the past week, we have had—

	Deaths in Hospitals.
July 20th	21
„ 21st	17
„ 22nd	9
„ 23rd	8
„ 24th	13
„ 25th	9
„ 26th	9

And in the Military Hospitals 11 deaths, making a total of 97. The mortality of the city continues to range from 15 to 20 per day. The character of the disease, also, has undergone a marked change within the last fortnight. Many cases now present themselves with symptoms of re-action from the commencement; others assume a bilious, and many an intermittent character.

The "sweating sickness," likewise, appears, in many instances, to confound itself with the epidemic, and some eminent Medical men here go even so far as to affirm an identity between the two maladies,—the "sweat" being merely a "cutaneous cholera," and the Asiatic form an "abdominal cholera." This theory is, perhaps, less observed than it may appear at first sight.

M. Levy, head Physician to the Military Hospital of Val de Grace, has recently published the results of his investigations on the pathological anatomy of the disease. They are derived from 150 autopsies, and the most important point—one constantly combatted by Professors Bouillaud and Broussais—is, that the central circulatory system presents frequent marks of derangement, both in the primary and secondary stages of the disease. The lesions, also, are identical in both stages, proving the identity of the disease at all its periods.

The lesions noticed by M. Levy as most frequent are—

1. Considerable distention of the right cavities of the heart.
2. Sub-serous ecchymosis.
3. Purple-coloured suffusion of the left ventricle.
4. Serous effusion into the pericardium.
5. Fluid condition of the blood.

In my last, I alluded briefly to the honorary distinctions conferred on several of our physicians for their labours during the epidemic; and it may be well to record them here.

M. Husson, physician to the Hotel Dieu, and M. Guillot, of Salpetriere, are appointed "officers" of the Legion of Henour. Have been "knighted":—M. Tardieu, of the Central bureau, for his services at the Hotel Dieu; M. Pidoux, for services at La Charité; Legroux, Physician to the Hospital Beaujon; Baillarger, attached to Salpetriere; Mitivié and Trelat of the same hospital; Vincent, Director of la Pitié; Haunosset, of Beaujon; Lebat, a pupil attached to Salpetriere; and Poirson, another pupil of the same Hospital.

The contest between MM. Ricord and Robert, for the Membership of the Academy of Medicine, has terminated in the election of M. Robert, who obtained 49 votes to 40 given to his competitor. A few weeks back each candidate obtained 44 votes, and, as the President has not a casting vote, it became necessary to have recourse to a new election. Little Robert is a good surgeon and an excellent *confrére*, but it is difficult to conceive the motives which induced the Academy to reject Ricord. Intrigue, however, plays a large part in all elections of this kind, and the greater the honour the more energetic, of course, are the efforts made to obtain it. We might, for example, mention a surgeon, a worthy and eminent man, *au reste*, who is known to have prepared his entrance into the Institute by the judicious distribution of "dinners," persevered in for a period of fifteen years. It is not easy to vote against a man at whose table you have drunk at least a tun of champaign.

INJECTION OF THE TUBES OF NERVES.

MM. Coze and Michels, of the Strasbourg Medical school, announce that they have succeeded in injecting the primary tubes of the nervous substance, and thus demonstrate an arrangement which many of our most eminent microscopical observers refuse to admit.

A portion of a nerve from the human subject, from a rabbit, frog, &c., is placed on a bit of glass, in such a way that the nervous tubes appear distinctly separate under a magnifying power of 350 to 400. The nerve is moistened with a drop of water, while being spread out on the glass; it is then again moistened with a few drops of chloroform, ether, or spirits of turpentine. The preparation is then covered with another plate of thin glass, but no pressure employed, and the object is examined under the microscope. In some cases instantly, in others after a lapse of twenty minutes, the primary tubes begin to swell; the matter which they contain becomes fluid, and currents are developed with more or less rapidity throughout their whole length. After some time, a fluid, containing some fatty globules, escapes from the extremity of the tubes. The currents may last for some time, or they may cease and recommence; finally, if the experiment be continued, the tubes are at last completely emptied, and present nothing to the eye but two indistinct lines.

The experiments have been repeated by MM. Coze and Michels more than thirty times, and they have shown the circulation to different microscopists in more than 300 nerves. The conclusions which they draw from their observations is, "that the intimate structure of the nervous tissue is tubular, and that the tubes are independent of each other, both in the plexus and anastomoses of the nerves."

LUPUS.

M. Emery, of St. Louis, assures us, that he has employed the cod liver oil with good effects in several cases of the above-mentioned intractable disease. The doses employed by M. Emery are very large. He commences with 100 grammes on the first day, and increases the dose rapidly to 500, which are continued for a fortnight. If no benefit has been obtained at the expiration of this period, the doses are carried still higher.

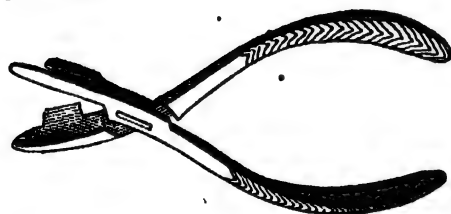
When the remedy disagrees with the stomach, M. Emery orders the patient to take one or two glasses of Seltzer water occasionally, and he suspends the administration of the oil, whenever vomiting or diarrhœa sets in. When an erythematous eruption appears on the skin, or the diseased parts are attacked by erysipelas with febrile re-action,—when these complications are removed, the oil is again administered in 100 grammes, and the dose rapidly increased to 700, or even 1000. Of 74 cases of lupus treated by this method, several were completely cured, and the majority very much alleviated.

It is, we must confess, a costly and disgusting mode; but lupus is a disease which the patient may think himself fortunate to get rid of at any price.

VARICOCELE AND ENGORGEMENT OF THE TESTICLE.

M. Vidal de Cassis has frequently occasion to treat affections of this kind at the Venereal Hospital. The process which he employs in the treatment is peculiar to him, and may deserve attention. He denominates it "*enroulement*," which we may translate by the term "torsion." A straight, lance-headed needle is armed with a very flexible silver wire, of the diameter of a pin. The patient is in the upright position, and the surgeon commences by separating the varicose veins from the vas efferens, which he pushes backwards and inwards. The veins are grasped by the thumb and index finger with a fold of skin, and the needle is passed behind the vessels, being guided from the index to the thumb of the operator, and carrying the silver wire with it. The engorged vessels are now allowed to fall back, and the index and thumb of the operator pinch up the skin in front of the enlarged mass of veins, and another silver wire, but of smaller diameter than the former one, is passed in the same manner. The patient is now placed in bed, the ends of the wires are cut off, leaving from fifteen to twenty centimetres, and the surgeon proceeds to twist the ends, which gradually brings the wires to bear on the chord; but, as the torsion is continued, the veins are twisted round the metallic loop, and the testicle becomes elevated in proportion to the torsion.

Finally, a small plug is placed on the portion of skin between the two orifices made by the needle; the ends of the wires are twisted on this plug, and the torsion increased by means of a new instrument, which M. Vidal has just invented, and which Charrierre has executed with his usual skill. (I send you a sketch.)



The advantages of this method, according to M. Vidal are, that it exposes the patient less to the chances of relapse, and is less painful than any other. The treatment usually lasts for three or four weeks.

GRANULAR OPHTHALMIA.

Professor Cunier, of Bruxelles, gives his unqualified approbation to the treatment of this malady by the acetate of lead,—a method alluded to in my last letter. M. Cunier has tried, in all the forms of chronic ophthalmia, and in acute catarrhal ophthalmia. It has also been employed, with the best effects, to alleviate the distressing intolerance of light which distinguishes scrofulous ophthalmia.

The great advantage of the acetate of lead is, that we can place it in contact with the affected parts for an indefinite time, or rather, we can incorporate it with them. The nitrate of silver will still continue to be employed, but in a great majority of cases it will soon be superseded by the acetate of lead. Like the former remedy, also, it possesses what is called an "abortive" power in many forms of inflammation of the eye, and its efficacy in this respect is said to be nothing inferior to the nitrate.

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THE MEDICAL TIMES.

SATURDAY, AUGUST 4, 1849.

We lately took occasion to direct the attention of our readers to a subject fertile in important and striking facts, viz., the influence of civilization on disease. We then pointed out that in each successive period of national progress, diseases change, even as change the conditions which they accompany. The ills that flesh is heir to, are not the same for the elder, as for the younger sons of society. In the earlier and ruder ages, the undrained fen, the uncleared forest-land, the recurrent and wide-spread famines, claimed their victims. At a later date, within the narrow compass of walled cities, and amidst the impure residences of an unrefined people, the deadly plagues and fevers of the Middle Ages vexed the souls of men. In our own time and country, the restless spirit of commerce has almost realized the fable of the Assyrian king, and has reared cities in a single day; it has withdrawn men suddenly from the open fields and plains, and has herded them confusedly in dense and ill-assorted crowds. Within the memory of man, vast towns have sprung up where formerly the lonely traveller startled the heron from its stone, or roused the wild deer from its brake. Within the present century we have entered on a different phase of national life; and we must anticipate that the physical and moral conditions of our new social position will increase the frequency of some diseases, will cause others to disappear, and will, perhaps, stamp their impress even on those affections whose origin is irrespective of, and is beyond, them.

Not only in the kind of diseases, but in the mode of regarding them, the earlier and later periods of civilization are to be distinguished. In rude and primitive times, men looked upon diseases as impenetrably and inscrutably obscure; like the wind, they spread where they listed, and no man knew whence they came or whither they went; they were regarded as the arrows of offended Deities, or as the fatal consequences of the curse, which had blasted the earth and wrecked the fair order of the primal harmony. If a few great Physicians pointed to the fact,—that infringement alike of physical as of moral laws brought its inevitable consequence of imperfection and decay, the mass of the people profited little by the lesson. No man looked within him and around him for the source of the evil he endured, but forgot his own unhealthy condition, while he inveighed against the inclemency of Heaven, or cursed the retrograde courses of untimely seasons.

As Science widened and became precise, men began to doubt the truth of this belief. They drained the morass, and the fen fevers died away; they cultivated more plentifully the fruits of the earth, and straightway disappeared the scurvy; they cleansed their cities, and destroyed the plague; they traced out the manifold ills which the impure commerce of the sexes generated, and noted the depressing causes which gave rise to the fatal consumption. They learned how mental and bodily diseases, like natural peculiarities, are acquired by an individual, and may be transmitted to his offspring; and, observing such transmission, they comprehended one meaning of the terrible denunciation, that the sins of the fathers shall be visited on the children. And thus they discovered, that Nature is not wholly to blame; but that we ourselves both breed and nurture a host of maladies, which only need, for their removal, a return to those rules of health which have been neglected and infringed.

The determination of these rules, and the consideration of how they may best be followed out, amidst the multitudinous influences with which this vast organization of modern society surrounds us, constitute the problem of Hygiene. It is no light task to estimate properly the effects which flow from the several discordant elements of modern life—from the fever and the vicissitudes of commerce—from the wear of intellect—from the unhealthiness of trades—from the accumulation of individuals of both sexes into small spaces—from, in fact, any of the innumerable moral and physical circumstances which affect, more or less, all classes of the community. But we can conceive no task so important, none so likely to benefit the people, and to secure to them a greater supply of that which it is the aim and end of all government to furnish, viz., moral and physical happiness and comfort.

At the present moment, it is particularly desirable that the subject of Hygiene should be carefully and impartially investigated by men competent for the task, and who are neither swayed by preconceived speculation, nor by the desire to raise an interest in any one particular direction. For of late years, a set of enthusiasts, carried away by every wind of doctrine, have grievously intruded their vague and one-sided opinions upon us. With some foundations of truth, they have built superstructures of most unstable materials. Each one entreating that *his* panacea may be allowed fair play, and predicting in brilliant colours, the golden age which he hastens to restore.

But, alas! the problem to be solved cannot thus be cut asunder, but must be patiently worked out with yet many years of observation and inquiry. Not in a single element, but in diverse conditions, in a combination of many circumstances, we must look for the varying influences from which diseases spring. Let us hurry on sanitary reforms, repair our sewers, cleanse our streets, and, as far as may be, purify our air; but let us not deceive ourselves with the notion that this is all we have to do,

in order to restore health and long life to our city population. We shall be bitterly disappointed if we expect thus to reduce our mortality to its proper rate, or to place the pale citizen of Bethnal-green on a level with the hearty rustic of Kent or Hampshire.

We are far from wishing to underrate or to fail in acknowledging the unquestionable benefits which must result from the exertions which have been lately made to improve our sanitary condition. But we are afraid lest our Sanitary Reformers should deem that the victory is, or indeed ever can be, wholly won. The establishment of a Board of Health is not the culminating point and terminus of Sanitary Reform. The creation of such a Board is certainly an indication that Government has at length recognised the importance of the subject; but this is merely the elementary and fundamental process by which that most useful public office is to be formed, whose inquiries, no longer one-sided, vague, speculative, and unproductive, but clear, precise, and based on the highest science of the day, are to elucidate the principles by whose aid the National Health is to be purified. Such a Board is not to be exclusively made up of engineers, surveyors, and the other representatives of the more mechanical and executive sciences. These must be indeed the hands of the Board of Health,—the instruments by which it works;—but the head and directing intellect can be derived only from the knowledge and research of those who have made diseases their special study, and who alone are competent to enter upon the difficult investigation of tracing out the causes of a nation's ills, and of attempting to bring back to every man that blessing of Health, without which even Nature's gift of life is shorn of its choicest fruits.

AN AMERICAN'S ESTIMATE OF THE ENGLISH MEDICAL PROFESSION.

Dr. George B. Wood, Professor of Materia Medica and Pharmacy in the University of Pennsylvania, has recently paid a visit to this country, in order to ascertain the actual condition of the Medical Profession here. Since his return to America, he has stated, in an introductory Lecture delivered to his class, what information he has obtained, and what opinions he has formed of the English practitioners of the healing art. The Lecture has just reached our hands, and we deem it our duty to present to the readers of the *Medical Times* an outline of the Doctor's statements, and our own annotations thereon.

After remarking, that the present organization of the Medical Profession in Great Britain has been the gradual growth of her wants and necessities, without any preconcerted or consistent plan—that the organization of medicine here is defective—and that, notwithstanding a vast amount of individual learning, skill, and devotedness, the general economy of the Profession is not upon the same elevated level "as the other great national interests,"—the Lecturer proceeds to speak of the grades existing amongst Medical Practitioners. These, he says, are four, more or less distinct,—Physicians, Surgeons, Apothecaries or General Practitioners, and Chemists and Druggists. To the Physician he accords the first professional status, from being generally highly educated, possessing a high tone of morals, and a polished exterior, all of which characterise the gentleman. In his description of the Professional habits of our Physicians he draws a contrast with those of his own country, and says that the nearest approach in America to the ordinary practice of the English Physician, is that of a Medical man of established reputation in one of the large towns, who wishing to limit his patients, confines himself as much as possible to the giving of advice at home, and consultations abroad. But here the analogy ceases. While the English Physician receives his proper fee at the time of his professional visit, the American notes each piece of service in his book, and sends an account of the whole at stated periods." In fact, our transatlantic brethren hold the honorarium paid at the time of the visit in no other light than a "mercenary service; and that the recipient, while he does not repeat the servile formula, *Remember the Physician*, must have the words in his heart. Brother Jonathan's notions of Professional gentility in this matter are evidently very un-English, and were they propounded to the grave and learned corporation in Pall Mall, would excite unmitigated feelings of hostility.

But, our American brother, in his travels through the British islands, appears to have imbibed the strangest notions in reference to the General Practitioners of Medicine. "While," he says, "they are destined to play an important part in the future medical history of the country, the name of apothecary at present signifies a mongrel compound of doctor, man-midwife, surgeon, and drug vendor; a true Jack-of-all-trades and master of none, willing to play second part to the regular physician; and, though used by the public, yet looked on by them with a sort of good-natured contempt! While he continues to prepare and sell drugs, he has superadded the practice of the different branches of the Medical Profession, and, without becoming a good Medical Practitioner, has ceased to be a good Pharmaceutist." Where, in the name of truth, did Dr. Wood get this information? Did he see for himself the practice of this "mongrel breed" while in England, as he speaks thus confidently about it, or did some wicked wag "cram" him? We thought that our provincial doctors were rather important men in their several localities; but according to this American tourist they are looked upon by the public with a sort of good-natured contempt. The fact is, the name of Apothecary deceives foreigners: they cannot disassociate it from the sale of drugs and chemicals; and the trading establishment of the Company in Water-lane perpetuates the deception. Every one is familiar with the story of Sinbad and the Old Man of the Sea, who fixed upon the unfortunate sailor's back with so much firmness that all his efforts for a long time to shake him off were vain. The name of Apothecary sticks with the same tenacity to the General Practitioners of Medicine, and hitherto they have been unable to get rid of it. We hope ere long, however, that they will meet with success. As English Medical Journalists, we enter our protest against the statement of Dr. Wood to his pupils in the Pennsylvania University, and we trust that our Transatlantic Contemporaries will also endeavour to correct the error into which their countryman has fallen.

The English General Practitioner is not that ignorant person whom Dr. Wood states him to be, but has received an education equal, at least, to the "Physicians" of the United States — the members of the American Medical Association being judges. We admit, that the competition existing amongst our licensing Medical Corporations has retarded the progress of Professional education; but, with all its imperfections, it has attained a higher standard than in the Western Republic. Diploma-mongering there has been carried on to such a fearful extent, that some of the graduates of Universities have received their Doctor's degree without knowing the freezing and boiling points of water; while they have imagined that castor oil was the oil of castor, an animal; and that the solar plexus was situated in the *sole* of the foot! Now, we do not believe the most stupid candidate that ever went up to our College of Surgeons or the Apothecaries' Company was such a noodle as to mistake a plant for an animal, or to suppose that a man carried his stomach in his shoes.

We have thought it right to notice the statements of Dr. Wood, a lecturer of eminence in his country, in order that the erroneous opinions which he appears to entertain in reference to the great bulk of English Medical men, may not be extensively propagated in America; and that those whom he has misrepresented may be stimulated to seek more earnestly for Professional enfranchisement. This, we conceive, to be the grand means of bringing about the climax to which Dr. Wood refers, while the Profession in other countries will, by it, be able to learn, that Surgeons in General Practice are not "a mongrel compound," but an educated, intelligent, useful, and respected class of Medical men.

VACCINATION AND INOCULATION.

We would call the attention of our readers to the able paper of Dr. George Gregory in our last Number, on the "Variolous Epidemic of 1844;" and would beg them to compare it with the Report of the National Vaccine Establishment, published in the *Medical Times* for June 9, 1849. In the latter, we see how little it is possible for a paid irresponsible body to effect, with unlimited means for investigation at their disposal; in the former, what important results may be obtained by the careful examination of a limited number of facts collected by individual labour.

Dr. Gregory and the Board are at issue on a question of no small importance. The Legislature has interfered to prevent inoculation. Dr. Gregory maintains that inoculation, if performed under certain circumstances, would vastly diminish the mortality from small-pox; and, in support of his assertion, adduces a large amount of carefully collected evidence. The Board, on the other hand, bestow their praise on the Legislature, for having made inoculation illegal. But the evidence on which they found their opinion is carefully concealed; their

laconic epistle informs us only, that they have received numerous communications from British and Foreign correspondents; that they have supplied from the Establishment over which they preside 174,991 charges of lymph; and that small-pox has been very prevalent in the West Indies; but, of the nature of the voluminous communications they have received, or of the particulars of the Epidemic, the Report affords us no information. Surely such a document is utterly unworthy of the Presidents of the Royal College of Physicians and Surgeons, the Senior Censor, and the Registrar of the former. Is it possible that these officials can be paid some hundreds yearly for appending their names to such an inane production? If unable or unwilling to investigate the subject of vaccination in all its bearings, to analyse the immense mass of materials they have, or ought to have, in their possession, we would entreat these exalted members of the Board, for the interests of humanity, to make way for men, if not more able, at least more willing, to do the work for which they are paid.

The subject of Dr. Gregory's paper is of too great importance to be allowed to sleep. It is true, that vaccination has greatly diminished the mortality from small-pox; still, it is a fact, that a few years since near 2000 persons fell victims, in London alone, to the ravages of this frightful malady. The accomplished Physician of the Small-pox Hospital, whose position alone ought to command attention to his statement, even though unsupported by the powerful evidence he has brought forward, assures us that we are sleeping on a volcano; that to-morrow may bring to our homes an enemy as much to be feared as that which now stalks uncontrolled among us; that we have excluded, by Acts of Parliament, the means of preventing its inroads, and lean on a reed, which will give way at the moment when we the most need its support; yet, with these assertions ringing in their ears, and the evidence before them on which they rest, the venerable Presidents doze in their chairs, or issue, for the information of the Profession and the good of mankind, the miserable document to which we have referred, yclept the Report of the National Vaccine Establishment.

REGISTRATION OF CHILDREN BORN DEAD.

We transfer to our columns a letter from "A Surgeon," which appeared in the *Times* newspaper of Friday last. The writer appears to have discovered an omission in the clauses of the Registration Act, by which the lives of many have doubtless been sacrificed. The subject must, in the course of the next session of Parliament, be brought under the notice of the Executive. In the meantime, we trust our readers will communicate to us any evidence bearing on the subject which may come within the sphere of their observation. It would be a point of considerable interest to ascertain the relative numbers of children born dead, in cases attended respectively by uneducated practitioners and medical men.

"Permit me," says the writer, "to draw your attention to a fact of so much importance, that I can scarcely understand how it has escaped the vigilance of the Legislature.

"The registration of births and deaths has been productive of immense medical, physiological, and statistical advantages. The influences of locality, climates, seasons, sex, habits, occupation, &c., have been recognised and appreciated; sanitary regulations, sewerage, &c., have been made important matters of consideration; yet one circumstance, and an important one, too, has been overlooked.

"The registrars of births and deaths are directed to obtain medical certificates of the death of children born alive, but no legislative enactment desires them to procure a medical certificate for those born dead. The latter are usually taken away by the sexton and quietly interred.

"Now, Sir, take the case of a child born alive and dying in three or four hours after birth, and being secretly interred in the manner described. The sexton is told that the child was born dead, and the law requires no medical certificate,—all is hushed in the tomb, and the world knows nothing of the matter! This, I am fully persuaded, is no infrequent affair. The facilities for certain commissions may be conjectured. I have heard of a midwife who was so particularly unfortunate in the loss of the 'little strangers,' that her practice grew too large for her."

THE NATIONAL INSTITUTE.

Our readers will perceive, by an Advertisement in our columns, that the Annual General Meeting of the Members of the National Institute of Medicine, Surgery, and Midwifery, is appointed to take place on Wednesday next, at the Hanover-square-rooms, at seven o'clock, p.m., precisely. Considering the important position in which the Institute stands, as representing the interests of the General Practitioners in the Conference Committee, it is very desirable that the Members generally should attend on that occasion, as doubtless matters of much importance will be brought before the meeting on the subject of Medical Reform.

THE OPERATIVE SURGERY OF JOHANN FRIEDRICH DIEFFENBACH.

Edited by Dr. BUSHNAN.

The suggestions of several esteemed friends, and the marked satisfaction with which this Edition of Dieffenbach's Surgery has been received by the Profession, have induced me to depart, in some degree, from the plan with which I commenced it. I propose, then, to render the Work still more complete and acceptable, by comparing, when necessary, the views and opinions of the Author with those of other authorities, and by considering the value and importance of the practices they severally advocate.

To effect this object, the co-operation of a practical Surgeon has become necessary—of one not only deeply read in the literature of his science, but ably practised in the manipulations of his art. The services of such I have happily secured; and for the future the Work will be published under the joint Editorship of myself and Mr. Ure, *of Bloomsbury-square, Fellow of the Royal College of Surgeons of England, and Surgeon to the Westminster General Dispensary.—J. S. B.*

(Continued from page 78.)

III. THE REMOVAL OF FOREIGN BODIES WHICH HAVE PENETRATED THE TEXTURES.

1. *The Extraction of Foreign Bodies from Wounds, or from Suppurating Canals.*

A vast multitude of instruments have been contrived for the removal of foreign bodies from the living organism,—a manifest proof of the difficulty and importance of the procedure. Most of these apply to the removal of bullets, by far the most momentous. They are chiefly forceps, scoops, or hooks, and also gimlets for boring holes into those imbedded in bone, in order to facilitate extraction. Many are useful, many superfluous, and others detrimental. The simple are the best.

The most eligible ball-extractor, according to my experience, is a straight, uniformly round, strong, forceps, fashioned like a straight polypus forceps. Its branches and handles must be longer, and its thickness more than [illegible] forceps, that it may not break. It must, for the same reason, be without perforations, its inner edges armed with strong teeth; externally, finely polished, so as not to irritate the raw surface.

In addition to the forceps, the surgeon ought to be provided with two bullet-scoops, a strong silver probe, a large syringe, a probe-pointed bistoury, and blunt hooks.

The patient ought to be put in the same position as that in which he received the wound, otherwise muscular fibres, fasciæ, tendons, get misplaced, and tend to perplex the passage through which the projectile entered. Should inflammation have assailed the wound, it must be treated in the usual way, and no operation attempted till its subsidence.

The act of exploration demands the utmost foresight, all noise being excluded, so that the surgeon may clearly distinguish what the probe strikes against. If the ball is to be felt plainly, it is to be extracted. The forceps smeared with oil are introduced shut, opened when they reach the ball, made to catch hold of it, and, with a few gentle turns, gradually withdrawn. Care must be had not to injure the sides of the wound. Sometimes the ball may seem to be deeply seated when really near the surface, and *vice versâ.*

The dilatation of the canal or tube formed by the track of the ball is, in general, highly prejudicial; but the wound in the integument may be dilated when it will not admit the forceps. The position that a gun-shot wound should be transformed into an incised wound is false; to enlarge the wound is to increase the danger. Only in the instance of great extravasation, of loose portions of bone, or of shells, or accumulations of pus, is dilatation permissible. (See "Dilatation of Wounds.") If the ball has penetrated a bone, and cannot be got away with forceps, it may be eased out with a gouge. The suggestion of using quicksilver, to form an amalgam with the lead, is most objectionable.

If there be no immediate prospect of removing the ball, all further attempts should be postponed until suppuration is established, when they may be renewed with some likelihood of success. Frequently balls heal up within the bone, are overgrown with osseous deposit, or else encysted in the soft textures.

In other cases the ball separates of itself, and comes away after the lapse of months, when the tube has been rendered wider by the process of suppuration, the fat and muscles absorbed, and the patient accustomed himself to lie upon the corresponding side.

Occasionally the ball cannot be found. It may have deviated from its track, swept round a bone, or taken a totally different course than could have been expected from the direction of the tube. Under such circumstances all interference is futile. Are there two openings in a limb? The lesser is the inlet; the greater the outlet. Of course, probing is out of the question, for the ball is escaped. But yet, despite of two openings, a ball may be present. I was called in consultation with Dr. Casper to a young Russian, who had shot himself. There was an opening on the chest anteriorly, and another on the back, both of the same size. At the cadaveric inspection a bullet was found in the thoracic cavity. The pistol, therefore, had been loaded with two balls. Of these one had passed through, while the other remained. Should the ball be lying beneath the integument on the opposite side, all groping in the tube formed by its track is improper; nothing more is needed than to make an incision through the skin and extract it. Bony splinters ought to be left until detached; otherwise dangerous bleeding may result. If the bone is fractured, no search should be made. Wounded arteries must be secured with ligature a little above the wound, which is not to be disturbed. Portions of wadding are to be removed with hooked forceps, ball-drawers, or bent hooks. It may be laid down, however, as a general rule in all the above cases, that the less interference the better.

When balls are driven into the surface of the skull, they may be loosened with a chisel or with

Heine's saw: when the inner table is perforated, and the bullet wholly or to a great extent forced inwards, the aid of the trephine will be required for its withdrawal. The surgeon ought not to go in quest of bullets lodged within the chest or abdomen; he may, if accessible, remove them from the wound, but make no attempt at dilatation. Afterwards the edges should be carefully brought together and retained in apposition by strips of adhesive plaster and a compress, even although other foreign bodies be infixed.

The extraction of balls, grape and the like, from the cavity of a joint or the head of an articulation, is attended with much difficulty, and only admissible when the ball will readily yield, as amputation is generally indispensable before the occurrence of inflammation.

Small pistol-shot, deer and hail-shot, do far less mischief than those of greater diameter. They either perforate the limb, or remain and are healed in the flesh. They ought to be removed only after recent injuries, when they can be easily laid hold of with dressing or polypus forceps. Hail-shot may be let alone, if deeply inserted; but, if superficial, picked out with a curette.

Angular fragments, as those of bombs and grenades, chopped lead and nails, splinters of the carriages of cannon, or of ships, (during sea-fights,) cause the most complicated lacerations, and their excision by dilatation is as urgently indicated, as the opposite, or passive plan, in the instance of smooth spherical shot. In every case the incision is to be made in the longitudinal axis of the limb, in the course of the muscles, nerves, and blood-vessels, preparatory to the removal of the extraneous substance, which must be done with extreme circumspection.

Sharp pointed bodies, as the ends of swords, nails, and the like, are more readily extracted than bullets, because more freedom may be used in incising the wound, and in tracing with the probe. For this purpose, a dressing forceps is alone requisite. I have often been at considerable pains in removing the points of rapiers which had entered the body during duels. A portion of a two-edged sword, the length of the finger, was once carried with such vehemence into the body of one of the lumbar vertebræ from behind, that, although the broken end protruded, I was obliged to use great exertion to remove it. The wound got well without any untoward symptom.

Arrows driven into the body, armed with barbs, barbed hooks, or other metallic hooked implements, are to be taken out in the same way as they entered, after previous dilatation by means of a cutting instrument. If the missile has reached the opposite side, a counter-opening may be made for its exit.

Needles, whether entire or broken, which have penetrated the flesh, need no extensive section for their removal. If the needle is lying lengthways, I usually force it out by its point without cutting, namely, by simply pressing up the skin with my fingers against the two ends. So soon as the point makes its appearance, it is grasped with forceps, and the whole withdrawn. I thus extracted a large needle from a lad, which had passed through the urethra backwards to the neck of the bladder. The patient having been placed, as in the operation of lithotomy, I inserted one finger into the rectum, exercised counter pressure with the fingers of the left hand upon the gut, and, having brought the point into view, plucked out the entire needle with forceps. Should the needle not be discovered after incising the integument, and careful probing, the wound must be left to suppurate, and further trials made during the employment of poultices.

Fragments of glass or porcelain ought to be removed forthwith by incision. As the external wound is, for the most part, complicated, incisions cannot do harm. Great delicacy is required, so as not to crush the broken fragment with the forceps during extraction. Suppuration is to be afterwards promoted, lest any particle be left, and prove a future source of nervous irritation.

Grains of powder must be picked out with a full-sized cataract needle, or with the point of a fine scalpel.

In the instance of poisoned wounds excision is the only sure course. If impracticable, the parts should be bathed with tepid water, freely scarified, set to suppurate, or covered with poultices medicated with solution of caustic potash. After the bite of a rabid animal, energetic suppuration ought to be kept up by the agency of powdered cantharides, applied topically, ointment of the same, and, subsequently, mild resinous dressing. The cauterisation of poisoned wounds is most objectionable practice, inasmuch as the resulting dry eschar serves to retain the poison in the system.

IV. THE REMOVAL OF FOREIGN SUBSTANCES HEALED UP WITHIN THE BODY.

In cases of this kind, where no annoyance is created by the presence of the foreign body, the best plan is to let it alone. Where, on the other hand, accidents arise, either from its pressing upon a nerve, or from its approaching a joint and impairing its mobility, or from its beginning to cause shooting pains, measures ought to be taken for its removal. A ball often makes its way to the opposite side to which it entered, and can be there distinctly felt.

The patient is to be placed in a recumbent posture, and so adjusted as to relax the muscles of the part implicated, that the surgeon may be enabled to feel the ball. Should he fail in doing so, but perceive, on pressing some suspicious spot, that considerable pain is complained of, let him plunge a pin, such as is used for transfixing insects, the length of the finger down through the flesh. If resistance is felt in a situation remote from bone, and a sound emitted on a gentle tap being given with a small hammer, he may rest assured the ball is there, and will not have to operate in vain. I have in this way discovered balls very deeply imbedded.

The patient being properly secured, the incision may be carried the length of two inches, if the ball be near the surface; but, if profoundly lodged as in the thigh or buttock, it may extend to three or four inches, always following the course of the muscular fibres, blood-vessels, nerves, and tendons. In the proximity of joints, the cut need not be larger than will admit a straight polypus forceps. It will often prove advantageous to make, with a small narrow knife, a minute incision several inches below the articulation and below the ball, thereby form a punctured channel, and remove the ball according to the subcutaneous method. The utmost caution, however, is necessary, so as not to open the capsule of the joint, or injure the vessels and nerves.

Should a ball create disturbance after a lapse of several years, this is probably due to necrosis or caries. Here the surrounding parts will be inflamed and swollen, and the indication not to disturb the ball, but to further suppuration by means of hot poultices. When this is established, an incision may be made, the ball extracted, and suitable treatment adopted.

A foreign substance which has tarried long in the organism becomes invested with a tough capsule. This ought to be slit across, and after the withdrawal of the ball its posterior wall divided, and sides freely scarified, as being little susceptible of inflammation. When these precautions are not attended to, a cavity is left after the closure of the wound, which may form a secreting surface, and lead to troublesome consequences, at any rate, to re-opening of the wound.

I have repeatedly, by the aid of small incisions and forceps, extracted from the hairy scalp the teeth of horn and tortoise-shell combs, which had remained fixed beneath the skin for years, and caused much inconvenience; in like manner, rusty needles, from various parts of the body, which had got broken by the action of the muscles.

Sharp-pointed substances, as fragments of nails or glass, when infixed in the soles of the feet, the palms of the hands, or the bends of the fingers are apt to occasion much distress. I removed from the sole of the foot of an English officer, a long splinter of glass, which had been healed in, and caused a deal of suffering. It is often necessary to excise, at the same time, hard prominent star-like scars, in order to restore the integrity of the part, and more efficiently remove the extraneous substance. A young girl, who was afflicted with epileptic fits, spasmodic contraction of the arm, with wasting, had a number of irregular cicatrices in the hand and bend of the fingers, which were simultaneously drawn together with and through the spasms. It was stated, that she had fallen upon her hand among glass many years previously. Expecting to find splinters, I dissected out the cicatrices, and discovered, in the firmest of the number, a slip of glass resembling a fish scale. This had evidently determined all her ailments, for the epilepsy and spasmodic contraction ceased, and she recovered the perfect use of the limb.

THE EXTRACTION OF FRAGMENTS OF DEAD BONE.

The interference of surgery is seldom required until the necrosed bone is separated from the adjunct parts by a distinct line of demarcation internally. Much benefit will be derived from judicious medical treatment. Thus, tonic remedies, in conjunction with phosphoric acid, and also alkaline baths and poultices, to favour exfoliation, and induce liquefaction of the callous integument, will be found highly serviceable. When the bony particles get loose, perforate or project beneath the skin, their removal may be accomplished by a small incision. More persons, however, have lost their lives or their limbs by premature attempts to remove dead, or partially dead, pieces of bone, than been relieved by such operations. The process of necrosis requires, at least in the instance of the large bones, years for its termination, as regards unhealthy individuals. All efforts to accelerate merely tend to retard, nor are they exempt from danger to patients reduced by protracted disease. If the *sequester* held only by the soft parts, keeps up inflammation and abscess, it will be right to divide the skin, or dilate a pre-existing aperture, and then seize the bone at one end with forceps and withdraw it. In general, the necrosed fragments of the superficial layers get uplifted by the granulations at the base, and compress the skin, which is thereby attenuated and easily ruptured. During the chronic progress of necrosis of an entire long bone, of which the articular ends pass into the recent structure, the old dead portion is so firmly incased, as not to be readily thrown off. Here patient forbearance is requisite. The outer opening may be dilated with sponge tents, and trials instituted to bring away piece by piece; and small bullet-forceps, similar to polypus forceps, or a gimlet, employed, provided the fragment is loose. If the osseous cavity be extensive, the dead portions may be either extracted or crushed by means of a lithotrite. I have more than once excavated a *sequester*, half as long again as the finger, from its recent bony envelope in the tibia, without previous dilatation of the *cloaca*, by the help of a watchmaker's drill, to which a tubular trephine, of the size of a swan-quill, was attached.

As in the cylindrical bones, so likewise in those of the cranium, are all manœuvres to get rid of dead fragments with saw or chisel contra-indicated. Exposure of the necrosed part by a linear cut where the bone is no longer protected externally by periosteum, is the sole operative procedure to be sanctioned; even a crucial incision is too much. Under the employment of moist warmth, exfoliation is more rapid than in the case of the long bones.

THE CHOLERA—ITS PROGRESS AND MODES OF TREATMENT.

This disease during the past week has been making considerable progress both in London and in the provinces. The mortality in the metropolis from this cause is stated by the Registrar-General to amount to 783, being 105 above that of the preceding week, and nearly all the cases reported are attributed either to bad drainage, deficient ventilation, improper food, or intemperate habits. During the past week numerous letters have appeared in the *Times*, in which various remedies are proposed to arrest or cure this disease, and, for the benefit of our readers, we give the following abstract of them:—

"Tyro-Medicus," Glamorganshire, states a case

in which the best olive oil, taken internally, appeared to effect a cure. The patient was a "Latter-Day Saint," and medical advice being contrary to the rules of his religion, the elders administered, as a religious rite, a cup of the best olive oil. Vomiting presently commenced; a second cup was given, the same operation ensued, perfect tranquillity pervaded the whole system, and the patient expressed himself quite cured. The following morning he was up walking about.

"One who has had an Attack of Cholera," and who has been many years in India, bears his testimony to the efficacy of copious draughts of rice water, at the commencement of the disease; and, during its latter stages, the use of salt and ice. He considers that nothing predisposes persons more to an attack of cholera than vegetable food, especially potatoes.

Mr. C. Rodney, of Old Burlington-street, states, that patients in a state of collapse have submitted to the vapour bath, and, in less than a quarter of an hour, the muscles have become relaxed and the dangerous symptoms subsided, leaving nothing more than weakness to be recovered.

Mr. Owen Evans, of Wilton-crescent, Belgrave-square, relates two cases in which he employed calomel, hydrochlorate of morphia, cajaput oil, and chloric ether, with great success. "Medico-Chirurgus" also speaks in high terms of calomel and opium combined, as a remedy in cholera.

"Medicus" considers the disease to be hæmorrhage, *i. e.*, "that the serum of the blood is separated from the crassamentum, and the capillary vessels pour out the former from the mucus membrane of the stomach and bowels, and that those of the skin also lose their power. The larger quantity that is discharged from the former is owing to the heat being so much greater than on the surface; and that which is called cold sweat is no sweat at all, but an exudation of serum. Taking this view of the case, such remedies should be employed as are calculated to check ordinary hæmorrhage, such as iced water, freely administered internally, as well as sponging the whole surface of the body, in the first place with cold water, and then wrapping the patient in a wet sheet (cold), and covering him with blankets. The effect of this will be to check all further exudation, by which you will generate heat, and natural sweating will be restored, as well as the secretion of the liver, kidneys, &c. The usual styptics may be employed, in addition to the above treatment." This writer objects to the use of brandy, opium, warm applications, and the great change of diet so frequently recommended by the Profession. He also considers the exhibition of olive oil worth trying.

Dr. Edward Johnson, of Umberslade Hall, strongly recommends the "wet sheet practice." The following is the process:—

"Everything having been removed from the mattress, a pillow is placed upon it for the patient's head. Upon the mattress, and extending over the pillow, two blankets are spread. On these blankets is placed a sheet, previously dipped in cold water, and then wrung out as dry as possible. The sheet should extend as high up as the blankets, but need not reach lower down than mid-leg, and should be wide enough to meet and overlap over the patient's body. Two large towels, one under and one over the body, meeting at the sides, and extending up to the neck and down to the knees, are an excellent substitute for the sheet when the sheets at hand are inconveniently large. A tablecloth about five feet square will also answer very well.

"The sheet having been spread upon the blankets the patient lies down upon it, perfectly unclothed, and upon his back, his head resting upon the pillow. An attendant now approaches on the left side of the bed, and, first puckering the sheet from the back of the head down to the back of the neck, reaches across the patient's chest, seizes the right upper corner of the sheet, brings it tightly across under the chin to his own side, and tucks it well and evenly under the left shoulder, where it joins the root of the neck, and under the point of the same shoulder. He now reaches across the body again, and brings all the rest of the right side of the sheet over to the left side, where he tucks it well and evenly under the patient. The attendant now passes to the right side of the bed, and proceeds to bring over the body and tuck in the left side of the sheet precisely as before. He now treats the upper of the two blankets precisely as he has treated the sheet, and finally the under blanket also. But in the blankets the feet and legs must of course be included, and the loose blanket-ends be tucked under the heels; and their upper ends be so close round the neck as to exclude the air. Four, five, or six blankets, doubled, should now be laid over all, extending from the chin to below the feet, and these superincumbent coverings should be pressed down closely against the sides, and a napkin be placed under the chin to prevent the tickling effects of the woolly fibres. If necessary, a small feather bed, or eiderdown quilt, may be added. Before the process begins, the arms of the patient should be extended by his sides. The great point is to seal hermetically the upper end of the trunk, over the shoulders, and round the throat and neck, so that the hot air within cannot escape, nor the cold air without find any entrance. A wet folded towel may be placed on the head, and re-action expedited by giving the patient hot tea through a glass syphon. When the patient has become thoroughly hot, or has began to perspire, he should be placed in a tub, and have one large pailful of water at 65° Fahrenheit dashed over him. He should then be rapidly dried, and placed in bed in the ordinary manner. This process may be repeated at the discretion of the Medical man, and is by no means incompatible with the simultaneous use of any drug which it may be thought desirable to exhibit."

Mr. J. J. Lemanach, of Margate, says that himself, mother, and many others, were rescued from the power of Asiatic cholera by the following simple means:—two grains of calomel, mixed with a little sugar, taken every ten minutes, and continued till the discharge from the bowels was arrested, and copious salivation induced.

"M. R. C. S.," Wandsworth bears testimony to the efficacy of Mr. Child's treatment of the disease with ether and opium in combination. The formula is as follows:—Tinct. opii ♏ xxf.; sp. eth. sulph., ʒi., mixed in a wine-glassful of water, for an adult. If the first dose is rejected, the second is to be given in ten minutes or a quarter of an hour; and the Writer says he has never yet known it to be returned. In the premonitory stage of the disease he recommends a dose of sulphur, mixed with a few grains of sesquicarbonate of soda.

We have thus given an epitome of the opinions of the various Correspondents of the daily *Times* on the treatment of cholera, and it will be at once seen that no settled or satisfactory method has yet been adopted. Every Practitioner appears to have his own favourite remedies, which are sometimes successful, at other times inert. We have in two severe cases found opium and cayenne pepper a most useful combination. We gave 5 grains of the soap pill with three of cayenne pepper immediately, and, this being rejected, repeated the dose in a quarter of an hour; in addition we prescribed an effervescing mixture, to be taken every half hour, in which was contained a drachm and a half of tinct. opii. P.L. The cramps under this treatment speedily subsided, and the rice-water evacuations ceased. We also ordered boiled rice, in which was a small quantity of brandy, as recommended by one of our Correspondents, and found it agree well with the stomach. The patients were man and wife, and had been ill with premonitory symptoms three days previously. The friends of the woman considered her dying when we first saw her. Both recovered.

MR. SKEY AND MR. CRITCHETT ON THE TREATMENT OF ULCERS.

[To the Editor of the Medical Times.]

SIR,—I apologise for again intruding on your columns the somewhat heavy performances of myself and Mr. Critchett.

There is an air of self-contentment about the reply of the Author on ulcers to my letter, savouring of his first brush with me in the work itself,—a kind of Sir Oracle style, which gently whispers the superiority of "our experiments" over others, and which would place them yet more prominently before the eyes of the world, could we only get the opportunity, and as though our Author's greatness would peep through the veil with which he has invested himself, in spite of his own efforts to prevent it.

Our Author asserts that he can find no written reference to my employment of opium in promoting the growth of granulations since the publication of my pamphlet. That is a somewhat startling assertion, seeing that ample reference to the principle which I had promulgated is to be found in the excellent writings of two leading members of the London Hospital School, and, I presume, Mr. Critchett's own instructors in medicine, if he ever had any. Mr. Critchett has obviously not taken pains to acquire a knowledge of the literature of the subject; but, like some other authors, writes first, and either reads afterwards, or, as in the present instance, does not read at all. Now, these books are accessible to every reader, from the student to the "lecturer" upwards, works of daily reference throughout the Profession, *written from his own hospital, and by two of his own colleagues*; for, as he talks with a flourish about his instruction to the pupils, I presume he has some appointment to the school.

Shall I put down this small breach of faith to Mr. Critchett's want of candour or to his want of observation?

The challenge is a device equally stale and puerile. Why should I, who have thoroughly trodden this ground, a dozen years ago, enter the lists in competition with so formidable a champion as Mr. Critchett? Such contention will hardly serve the cause of truth, notwithstanding the opinion of our Author to the contrary; and, as for credit, pah! "le jeu ne vaut pas la chandelle."

No, Mr. Critchett; the challenge is respectfully, though firmly declined, as they have it in weightier matters.

Mr. Critchett affects surprise (it must be mere affectation) that I would condescend to notice his attack on me. I beg to tell Mr. Critchett, once for all, that I object to all indirect modes of obtaining notoriety; that modesty is a becoming habit for a young man and a young Author.

I did not object to the *thing*, but to the *manner* of the thing. I say, the tone of Mr. Critchett's comments on my principle was offensive to the established courtesy due from one known medical man to another; and I never will cease to contend against professional vulgarisms, believing them to be more hateful and more injurious to the morals of the Medical Profession than is Quackery itself. And so, Sir, I conclude my correspondence with you on the subject of Mr. Critchett, his claims to confidence as an Author, and his Book on Ulcers,

I remain, Sir, your very obedient servant,

F. C. SKEY.

CASE OF STRICTURE, WITH PROFUSE DISCHARGE FROM THE URETHRA.

[To the Editor of the Medical Times.]

SIR,—Is the following case sufficiently interesting and instructive to permit its publicity in the *Medical Times*?

Yours obediently,

HENRY SMITH.

13, Caroline-street, Bedford-square.

I was consulted, about three months ago, by a gentleman from Suffolk, under the following circumstances:—

He had a profuse discharge, from his urethra, of muco-purulent fluid, exactly like that of gonorrhœa. It troubled him excessively, and he wished to get rid of it. He had had gonorrhœa several times, and about two years ago he was treated for stricture by a surgeon, and, apparently, with success, after more than twelve months' irregular attendance; at the end of which period he married. A discharge, however, occurred now and then, sometimes being better and sometimes worse. He again applied to his surgeon, who told him that he had gonorrhœa, and that he must take copaiba. He explained to the surgeon, that he had married a virtuous woman, and that he had had no connexion with any one else, and that he must be mistaken. This did not change his adviser's opinion, and he prescribed copaiba. The patient would not take it, and the discharge diminished, and went away of itself.

On the least excitement, however, it returned; the firm and, as he thought, erroneous opinion of his medical attendant had offended him, and he was recommended to me.

He related the previous circumstances, and showed me the discharge, which was profuse, and so like to that of gonorrhœa, that I almost involuntarily exclaimed, "I could swear you had a gonorrhœa." At the same time, having the advantage of hearing his former history, I suspected he might have a stricture remaining. I requested permission to examine the urethra, and, on doing so, I discovered two irritable

strictures. I told him that this was the cause of the discharge persisting, and that it was necessary for him to come to London every week, to have the bougie passed. I, at the same time, desired him to refrain as much as possible from sexual connexion, and from all other species of excitement.

I need not enumerate the particulars of this case, which was troublesome to treat,—for the urethra was so excessively irritable, that, about three weeks after this, I could only introduce, with some trouble, a No. 4 bougie. In a short time, however, a good-sized instrument could be introduced, the discharge diminished, and, at the end of two months, I passed No. 12 bougie; all discharge had ceased. He had latterly used a weak solution of acetate of zinc, in order to diminish the irritability of the urethra, and hasten the cure.

I advised him to return to me in another month, in order that I might ascertain if the cure was satisfactory. He visited me last week. The urethra admitted No. 12 bougie, and the discharge had never returned.

The points of interest in this case are obvious; it particularly indicates how careful the surgeon should be in giving a decided opinion respecting the nature of a discharge, when the patient is a married man, and denies having placed himself in a position to get infection. It is true, that the surgeon is frequently wilfully imposed upon by his patient; at the same time, an educated and sensible man, if he have any confidence in his medical attendant, will generally tell the truth.

I am by no means surprised that the discharge in this instance was taken for and treated as gonorrhœa, for the similarity was so great that it was almost impossible to give any other opinion; for although it frequently happens that a thin, gleety discharge is produced by a stricture, one of a purulent, or muco-purulent character, exactly like that of a common clap, is rare as an effect of this altered condition of the urethral canal. This case strikingly shows the necessity of examining the urethra with an instrument, if a discharge persists for a length of time, and resists ordinary remedies; for in many such cases the discharge is kept up by the stricture, and unless this be overcome, no permanent cure can be expected to result from remedies by the mouth or by injections; but as soon as the obstruction is fully overcome, the running, whether it comes from the urethra or neck of the bladder, will readily give way. As an instance of the dependence of the discharge upon a stricture, and its rapid departure as soon as this has been treated, M. Leroy d'Etiolles mentions, in his work on stricture, a case of a gentleman suffering under two bad strictures. Here there was such a profuse discharge of thick, mucus-like, false membrane, that the unfortunate patient almost lived upon a perforated chair. This lasted for a year, when the stricture was discovered, and treated properly; and in eight days the discharge ceased, and since ten years has not returned.

ICE IN THE TREATMENT OF CHOLERA.

[To the Editor of the Medical Times.]

SIR,—I was summoned at eleven, a.m., on Sunday morning, July 15th, to a young lady, aged 17, presenting the usual premonitory symptoms of Asiatic cholera, which had continued for about two hours. Her pulse was under 60, and scarcely perceptible; surface cold, countenance pale and anxious, with dark areola round the lids; vomiting and purging incessant; with cramps, and great prostration. The attack was quite sudden, and no cause could be assigned, nor had any case, that I could learn, occurred previously in the neighbourhood. I ordered her at once to bed, first immersing the feet in hot water, with mustard, and fomentations to be kept constantly applied to the abdomen; also, the following mixture to be given:—℞ Mist. Cret., Camph., aa. ℥ij.; sod. bicarb., ℈i.; acid. hydrocyani., ♏. vj. Table-spoonful every half hour, till the vomiting and purging should diminish; to allay the thirst with ice, in small quantities, used frequently. Saw her again two hours after, when she appeared feverish, but with a faint degree of moisture on the skin; vomiting and purging much less, and pain greatly abated. Had taken the mixture thrice. I told her to continue the mixture at intervals of two hours, unless the symptoms again increased, and the fomentations till full perspiration appeared; ice or rice water (cold) to be drank occasionally, as required. In the evening, I found she had perspired freely, and otherwise progressed favourably. Ordered her to discontinue the remedies except cold drinks. Next morning, I found the patient entirely free from the distressing symptoms, and she had passed a good night. To take arrow-root and boiled rice, and continue cold drinks, with keeping her bed. Tuesday, the young lady was convalescent. This communication I thought, perhaps, admissible, as adding a mite to the very many modes of treatment proposed in cholera, and showing possibly how simple remedies, in the primary stage may, if adopted *instanter*, ward off the succeeding, in the greater proportion of cases, fatal symptoms. A happy result can rarely be anticipated in hospital practice from the length of time which must elapse from the commencement of the attack till the patient is fairly taken in hand, when each Practitioner endeavours to combat the then presenting symptoms with such means as his judgment dictates. In cases of diarrhœa, with or without vomiting, I have found ice most grateful to the patient, and serviceable in arresting the irritation and discharge. I was induced to essay this mode from learning its beneficial effects in cholera during the scourge in Paris of 1832, and subsequently in New York, while residing there.

I am, &c.,

J. G. WESTMACOTT, M.D., M.R.C.S., Edin.

6, Porteus-road, Maida-hill, July 24, 1849.

COTYLEDON UMBILICUS.

[To the Editor of the Medical Times.]

SIR,—My attention having been directed to an advertisement in your advertising sheet of the 2nd of June, relative to an extract of cotyledon umbilicus, prepared by Mr. Randall, of Southampton, and said to have been first employed in medical practice by Dr. Joseph Bullar, which is calculated to produce an erroneous impression, I think it due to myself to correct the error which it is likely to occasion.

The cotyledon umbilicus was first used in medical practice by myself, and that too many years before Dr. Bullar ever employed it; and he, moreover, derived all his information originally and directly from me. It is true, that this particular preparation was first employed by Dr. Bullar; but the obvious meaning of the advertisement is, that the medicine altogether originated with that gentleman.

I beg to state, that I believe the error to be unintentional.

I am, Sir, your obedient servant,

THOMAS SALTER.

Poole, July 10, 1849.

NITRATE OF SILVER IN QUINSY.

[To the Editor of the Medical Times.]

SIR,—In a letter from Mr. J. B. Brown, of Haverfordwest, (inserted in the *Medical Times* of the 21st July, 1849,) respecting the valuable use of the argent. nit. in quinsy, I can fully bear him out from my own practice. I have frequently used it with certain success, by its application at the first onset of the disease, and use it in a much similar manner as Mr. Brown. I generally apply it a little below the inflamed surface, which prevents it spreading further. It should be applied pretty freely at first, when you generally find you need no second application; but should it require it, it ought not before eight or ten hours has elapsed from the first application, as Mr. Brown states. I am sure no one will regret its use if they only give it a trial, and I have no doubt they will not often be disappointed, (if ever,) if properly applied; and as we have such a powerful agent in arresting so frequent and painful a disease, it behoves all Medical Practitioners to make the trial; for, as the old adage says, the proof of the pudding is in the eating. I have tried leeches, gargles, poultices, and what not, (also says Mr. Brown,) but upon an average could not prevent suppuration; perhaps that may be partly owing to patients being too late in applying to you; but at the commencing of the attack, nitrate of silver for me.

I generally give six drachms of the sulphate of magnesia in inf. rosæ comp., previous to applying the caustic.

Should you think this worth insertion, you will oblige yours most obediently,

R. M. B.

Ulverston, July 24th, 1849.

UNIVERSITY DEGREES.

[To the Editor of the Medical Times.]

SIR,—I see with regret your trust in the integrity of the motives of your correspondents has been abused, and made subservient, under assumed names, to objects at variance with your intentions to inculcate legitimate discussion and advance Medical science.

In your last Number of the *Medical Times* an abusive tirade against Edinburgh degrees is indulged in from the pen of a Practitioner, who obviously knows nothing of the comparative advantages, or otherwise, of the several Universities, and whose object is merely to advertise himself and the school in which he has studied. The Graduates of Edinburgh here having obtained a status and consideration which he has aspired to without success, and, not having been able to raise himself to their level, he is endeavouring to bring them down to his. This is no fancy. No one of his colleagues who has read the letter in question, that does not feel assured of the authorship, which is in keeping, besides, with an endeavour for a long time, by various means, to carry out this very uncandid and illiberal object.

VERITAS.

July 23, 1849.

P.S.—The address is intentionally omitted, lest by possibility there should be an error in identity, which this appeal will put to the proof, and which no man with honesty of purpose can decline.

NEW INSTRUMENT FOR DISSOLVING STONE IN THE BLADDER.

[To the Editor of the Medical Times.]

SIR,—It has been said, that he who makes *two* blades of grass to grow where *one* only grew before is a benefactor of his species. By a parity of reasoning, the individual who, by his perseverance and skill, shall succeed in alleviating the sufferings of mankind, must thereby establish a claim upon the attention and aid of those whose privilege it is to lead and form the opinions of their fellow-men.

Under the influence of these considerations, I will, with your permission, lay before your readers a description of an instrument which has long occupied my time and attention, and which may prove of signal service to some, and I trust, not altogether uninteresting to all.

The instrument to which I allude is for the purpose of dissolving stone in the bladder without injuring the coats thereof, which I accomplish by means of the following simple contrivance:—

A pump so constructed as to inject and eject at one stroke, connected with which is a pipe of a bougie shape, containing two separate passages, which pipe can be passed into the bladder, the fluid used being made to pass in and out of the same by one stroke of the pump, so that it cannot injure the coats of the bladder, but only operate upon and dissolve the stone with which the solution is brought into direct contact, and thus bringing away portions of the stone with the fluid at every stroke of the pump.

The operation may be repeated at intervals until the whole of the stone be removed.

WILLIAM M'GURY.

119, Bunhill-row, Finsbury.

DRY CUPPING IN INTERMITTENTS BY DR. GONDRET OF PARIS.

[To the Editor of the Medical Times.]

SIR,—It was my intention to have sent you some remarks upon this subject in the month of January last, but other avocations prevented me. Seeing in your number of last week another notice of Dr. Gondret and of his dry-cupping, I presume to obtrude upon you the following observations, and I feel myself the more at liberty to do so having for some time desisted from practice, or rather from the taking of fees, and am therefore free from the suspicion of any interested motive in now addressing you.

About seven years since I resumed the practice of my Profession, after having abandoned it for several years. From that period I have used dry-cupping, not only in the treatment of *intermittent fever*, but in many cases to which other names are given, such as gout, rheumatism, asthma, dropsy, neuralgia, epilepsy, apoplexy, &c. I have no doubt of, and my experience confirms, the success which must have attended Dr. Gondret's plan of treatment, although his mode of applying the dry-cupping differs from that which I adopted and uniformly practised. Dr. Gondret uses several glasses, whereas I generally use but one. I produce the required vacuum by the combustion of a few drops of any strong spirit placed in the glass. Instead, however, of allowing the glass to remain stationary on the patient, I sweep it down the back, over the abdomen, or other parts of the body, with a smart, quick movement, and I repeat the operation as often as necessary, which altogether does not occupy above a few minutes. I am led to conclude that this plan is in every way more convenient, less painful, and di[illegible]tient, and much more powerful [illegible] cutting short the

paroxysm of intermittent fever *in whatever shape it may present itself.*

This mode of treatment, like everything new, elicited any but friendly and liberal remarks from my professional neighbours, who honoured me with the *sobriquet* of "the *dry-cupper.*" Their sneers, however, did not prevent me from pursuing a mode of treatment which every day's experience taught me was most valuable and powerful. Like all the other appliances of our uncertain Profession, its effects for good or evil cannot *positively* be relied on, for in a few instances I have failed to obtain the beneficial effects which it had produced in others of an apparently similar character and nature. I have never, however, in my own practice, experienced any *bad* effects from its application, nor have I heard of any in the practise of others. Its application, therefore, is not attended with the usual risks of other attempted remedies, *all* of which, even those best known for their effects, are more or less uncertain.

The following cases are hastily selected by memory from some thousands. If I were to refer to my memoranda, I could select many of a more extraordinary character, and these with names and addresses shall be furnished with other particulars, if called for.

I am, Sir, very obediently yours,
G. W. BLANCH, M.R.C.S. Ed.
3, Albion-place, Blackfriars-road, July, 1849.

Mr. Bartlett, Builder, Loughborough-road, Brixton.—About 60 years of age. Had been afflicted from his youth with an affection of the chest. For twenty years had been decidedly asthmatic, and unable to lie down in bed, or sleep longer than two hours at a time. When he came to consult me, the weather was very inclement, and he was evidently in great suffering, and almost asphyxiated. He described the sensation at his chest to be as if a burning cord was being tied tightly round him. I applied the cupping glass all over the abdomen with instant relief. He walked home with perfect ease, and slept without disturbance from nine o'clock till seven next morning, and was able to lie in bed in the ordinary position. The cupping was not required to be repeated, but I put him under a course of prussic acid, morphine, and alkalines. He was able to attend to his business, during the following winter, in the severest weather, and could walk at the rate of several miles an hour with perfect freedom.

Mr. Bartlett, Jun.—By exposure to weather, was seized with an acute attack of pneumonia. The dry cupping was freely applied to the abdomen and between the shoulders. The relief was instantaneous, and, with scarcely a dose of medicine, he was next day enabled to resume his ordinary avocations.

Mr. David Meffiss, Merchant, New York, U.S.—Had for several years been subject, during the summer, to attacks of ague, which the treatment pursued had failed to arrest. He came home to England, and put himself under my treatment. I refrained from giving him any medicine, but waited until an attack came on. This happened in about two weeks after I first saw him, and, before I could get to his residence, he had merged from the cold into the hot stage. I immediately applied the cupping glass to the abdomen and down the spine. The attack was immediately cut short, and, with the use of prussic acid and lime-water, he has never had a relapse. He returned to New York, but has visited this country several times since on his business affairs, and, when I last saw him, he continued free from his troublesome attacks.

Mr. Hickling, Farmer, near Crowland, Peterborough, Lincolnshire.—Aged about 50. For nearly twenty years, had been afflicted with neuralgia of the occiput, nape of neck, extending to both shoulders, and to one of the elbows. He had consulted a number of medical men, both in town and country, but without the slightest benefit. He was subject daily to attacks, and, when he came to consult me, was then labouring under one. The cupping glass to the stomach and over the parts affected, relieved him instantly, and there was no relapse; and, with the use of zinc emetics occasionally, and after a short course of calomel, morphine, and strychine, he, for some three years, to my knowledge, continued free from his attacks, and in restored health.

Mr. Parkinson, Cattle-salesman, Smithfield-market.—This gentleman had an attack of rheumatism of the shoulder-blade, by which, for three months, he had been unable to touch the back of his head with the hand of the affected side, or to put on or take off his coat without assistance. Meeting him casually, I offered to endeavour to relieve him. The application of the glass over the shoulder was followed by the entire freedom from pain, and the complete restoration of the movement of the extremity. I have subsequently attended this gentleman for another illness, but he has had no relapse of the rheumatism.

Mr. Brokhes, Plumber, &c., Upper Kennington-lane.—Aged about 45. Was with difficulty able to walk to my house to consult me. He was labouring under all the symptoms of acute hepatitis. The cupping-glass to the abdomen immediately relieved him. This was followed by a few doses of calomel and antimony. He returned to his work in less than forty-eight hours.

Mr. Bennett, aged 43, Corn Merchant, Belvidere-road, and —— Mills, Bushey Park, had, for upwards of two years been in a declining state of health; cough, dyspnœa, and palpitation supervened, and then ascites and anasarca. When called upon to attend him he had for many weeks been unable to walk or lie down in bed, and his body clothes had had to be enlarged upwards of twelve inches. He had been under the treatment of two general practitioners of the neighbourhood, assisted by the consultations of a now deceased President of the College of Surgeons. The treatment pursued seemed to have been principally powerful drastic purges, with occasional blisters, leeches, and sinapisms. It had been proposed, as a last chance, to tap him. At my first visit I applied the cupping-glass in the usual way, over the abdominal parieties and also down the back and lumbar region. The result was, that he slept more than usual that night and in a more recumbent position. The cupping was repeated every other day, and I administered in his bed-room, twice a week, a powerful hot-air bath, by a simple and easy method which ought to be more generally known and practised, and the rest of his treatment consisted of ammonia, liq. potassæ and iodide of potass in a mucilaginous mixture. In the course of a fortnight he was able to resume his ordinary clothing, and to walk from his residence Mark-lane and back on market days. He continued to improve in appetite and strength and continues comparatively well and of ruddy healthy appearance. On two occasions, after fatigue and exposure, he came to me complaining of a sense of tightness about the chest. On both these occasions the usual application of the cupping-glass to the abdomen was sufficient and removed his symptoms without further trouble. I omitted, in its proper place, to mention, that my patient, during the first two weeks of my treatment, lost upwards of forty pounds in weight, but, at the same time, increased daily in strength and physical power.

IMPORTANT TO DRUGGISTS AND MEDICAL MEN.

GRIFFITHS v. WALFORD.

A case of some importance to the Medical Profession was tried a few days since before Mr. Bullock, in the Guildhall County Court. The plaintiff, a Mr. Griffiths, of Wolverhampton, brought an action for damages and compensation against Mr. Walford, of the firm of Lunn and Walford, 149, Aldersgate-street, alleging that, being taken ill while in London, he applied to Mr. Walford for a dose of Sir James Murray's fluid magnesia, which he was in the habit of taking to allay irritation in the stomach, and for a four-grain calomel pill. Mr. Walford administered to him a dose of Epsom salts, whereupon he expressed himself very angrily on the subject, and refused to take any more medicine of Mr. Walford's making. In consequence of the dose of Epsom salts, to which medicine he had a great aversion, as tending to excite, not allay irritation in the stomach, he was laid up for that night and the next day, and detained in London from his business at Wolverhampton. The plaintiff, who acted as his own counsel, said that he did not seek for damages, but to enforce, by the verdict of a jury, upon the attention of medical men and druggists, the principle, so important to the public, that if he or any one went into a druggist's shop, and called for some particular medicine, that druggist—or surgeon in attendance in his shop—should not be at liberty to substitute another, either because he had not got the medicine asked for, or did not choose to sell it; or desired to sell something else by which he made a larger profit; or had the presumption or the vanity to think he knew better than his customer what was good for him.

On the part of the defendant, it was argued by his counsel, Mr. Mellor, that the plaintiff had applied to Mr. Walford for advice, and that were it possible for him to obtain a verdict, no Medical man, for the future, would be safe in prescribing for a patient. He called Mr. Lloyd, Surgeon, of Aldersgate-street, who spoke as to the efficacy of bicarbonate of magnesia, the mixture which he understood, Mr. Walford had given to Mr. Griffiths, and explained that although sulphate of magnesia entered into its composition, its action was neutralised.

"Mr. Walford, of 149, Aldersgate-street, stated that he was a partner in the firm of Lunn and Walford, Mr. Lunn not being his partner as a surgeon, but simply as a chemist and druggist. He is himself a surgeon; Mr. Lunn only makes the preparations. He recollected the plaintiff coming to his shop. He was out at the time, and just returning from visiting a patient, when he met Mr. Griffiths coming out of the shop. He re-entered with him. The apprentice said, that the gentleman wanted some advice. Mr. Griffiths complained of flatulency and heartburn, and said, the mutton and turnips had disagreed with him. He had not been drinking anything. He looked at his tongue, and sent for the bottle containing a mixture of bicarbonate of magnesia. While pouring this out, Mr. Griffiths said he should like fluid magnesia. He replied, he would give him something quite as good. Mr. Griffiths then swallowed the dose; but no sooner had he done so than he pulled a wry face and angrily exclaimed, 'You have given me Epsom Salts, which is wrong.' He replied, 'I have given you something quite as good as what you asked for, and I will not be dictated to by my patients.' He made a rule of not telling his patients what he gave them; as otherwise, on other occasions, they might doctor themselves, and do mischief by an injudicious use of proper medicines on improper occasions. That was the common sense of the mystery of medicine. Mr. Griffiths was very angry, and in an excited manner, said, he did not care for him, to which he replied, that he did not care for Mr. Grifiths, and took his money and left him.

"Cross-examined by Mr. Griffiths.—The mixture was not Epsom Salts, but was composed of bicarbonate of potass and sulphate of magnesia; sulphate of magnesia was Epsom salts, but they became neutralised in that mixture, which then became bicarbonate of magnesia. He could not swear that Mr. Griffiths did not ask him for the fluid magnesia, but distinctly remembered his asking for a calomel pill; thought Mr. Griffiths asked his advice. He complained of headache, flatulency, and heartburn. He could not say whether they had Murray's fluid magnesia on the premises at the time. Epsom salts was not fluid magnesia. He could not remember the name of the patient from visiting whom he was just returning when he found Mr. Griffiths in the shop. Remembered Mr. Griffiths mentioned fluid magnesia, while he had the bottle of mixture in his hand and was pouring it out; will not swear that Mr. Griffiths did not ask for Murray's fluid magnesia. Mr. Griffiths said, 'You shall not make the pill for me; you have given me wrong.'

"Alexander Jackson stated, that he was the apprentice of Messrs. Lunn and Walford; he remembered the plaintiff coming to the shop, and thinks he said he wanted some advice. He remembered the plaintiff saying after he had taken the dose, 'I wish you had given me what I asked for;' and also remembered that he said, 'I won't have the pill; you have not given me what I asked for.' He cannot swear that he remembered hearing plaintiff ask for Murray's fluid magnesia, but will not swear that he did not ask for it.

"Mr. Lunn, of the firm of Lunn and Walford, said, that he was a chemist and druggist, and in partnership with Mr. Walford. They had Sir James Murray's fluid magnesia in stock on the 1st of April. They obtained it from Mr. Edwards, St. Paul's Churchyard. He does not sell much of it, as he generally sells his own preparations, which pay him better.

"Cross-examined by Mr. Griffiths.—Begged distinctly to state to the Court that he did not profess a knowledge of anatomy, or the practice of physic; was not a surgeon, and did not wish to be examined as one. He was a chemist.—Mr. Griffiths: Very well, Mr. Lunn, we will examine *you* as a chemist then. [The discussion as to the elements of Epsom Salts, and the true properties of sulphates, carbonates, and bicarbonates of magnesia, here became so animated and exciting between the various medical witnesses, and Mr. Lunn and Mr. Griffiths, both of them operative chemists, that the judge, the jury, the court, and even the cause itself, seemed to be forgotten, and we might have fancied ourselves present at a scientific *reunion*; when, on a sudden, a very *naive* offer, made by Mr. Griffiths in the excitement of the discussion, that the jury should test the two by taking a dose of the Epsom Salts and a dose of

the fluid magnesia, convulsed the jury with horror, and the court with laughter. This trial by ordeal, was, it is needless to say, declined with great energy by the gentlemen of the jury, and the examination proceeded.] Mr. Griffiths: Mr. Lunn, as an operative chemist, do you know a bottle of Murray's fluid magnesia when you see it? Yes.—Do you keep it in your shop? I do.—Do you sell much of it? No. How is this? I sell my own preparations, which pay me much better.—Now, Sir, will you tell the jury whether Epsom Salts are Fluid Magnesia? They are not.—Is Murray's Fluid Magnesia Epsom Salts? Certainly not.—Do you make all your own preparations? No.—What do you make? Those preparations that pay me best.—That I was aware of, Sir, but that is no answer to my question. Do you make the preparations of opium, morphine, and so on? No.—Extracts? No.—Plasters? No.—Paregoric and syrup of rhubarb, I suppose you do make? Yes.—Pray, Mr. Lunn, are you a member of the Pharmaceutical Society? I am not.—Not a member of the Pharmaceutical Society: oh, indeed! I shall not examine you any further then.

Mr. Griffiths, in replying to the defence, said, that, as to this question being so important for the future safety of Medical men in prescribing, how much more important was it to their patients.

"What safety is there, to any of us," said he, "that a prescription, obtained at a great expense, and in the crisis, it may be, of some fatal disorder,—from some eminent Physician, requiring the nicest discrimination and accuracy in its preparation—and there are medicines, gentlemen, as the records of coroners' inquests too fatally make known to us,—in which the turn of a scale, or the measuring of a half drop make the difference between health and death—what security have we, I ask you, if such as I now complain of be the practice of druggists? What security have we—the ignorant, confiding public—mystified by the Latin of the prescription, and bamboozled by the mysterious importance of the surgeon-druggist, that he will not make up this carefully-obtained prescription, on which the life of the bread-gainer of a large family may depend, totally different from the purpose and intention of the able Physician who wrote it—and administer to us some drastic sulphate, or bitter nauseating salt like this, instead of a tasteless, inodorous, and innocently refreshing medicine, like Murray's fluid magnesia, or any other proper ingredient, legibly written in our prescription?"

Mr. Griffiths then went on to say,

"That an attempt had been made by the doctors to get out of the difficulty by suggesting—they did not venture to swear it—that he had asked for advice. If he asked Mr. Walford for advice, why did he ask him for a calomel pill? When you ask a doctor's advice, do you tell him what to give you? If he had asked his advice, and stood there to take the medicine as recommended, how came he to be so angry about the Epsom salts? Could he have shown so much feeling, if he had taken them under Mr. Walford's advice? What right would he have had to say—'You are wrong!' Is that the speech of a patient to a doctor whose advice he is seeking? Is it not rather the reproach of a man, who has asked for one thing and finds himself aggrieved by the substitution of another? Away then, at once, with this flimsy pretence of his having asked for advice. He was himself a chemist and druggist, and went into the shop of Messrs. Lunn and Walford to get the medicine—Murray's Fluid Magnesia—which he was in the habit of taking. Mr. Walford had chosen, from carelessness, or design, or from the habit of always *giving* Mr. Lunn's own preparations, (a very natural reason,) to administer him what he did not want. He did so on his own responsibility, and he must take the consequences. He (plaintiff) would now repeat what he had before said, that he had no personal feeling in the matter, and no desire for vindictive damages. It was the principle in question for which he stood out,—that the druggist should sell to his customer the article for which the customer asked him, and not substitute, at his pleasure, another medicine, because more convenient or more profitable to himself. The public safety required that this rule should be rigidly enforced amongst medical men. 'There is no profession,' said Mr. Griffiths, 'in which we are called upon to place so much implicit faith and confidence as the medical. Why, almost more than one-half of the secret of success in medicine is the confidence—the reliance of the patient in the physician. And what defence have we—what safeguard? If one lawyer deceive us we can go to another: if one clergyman attempt to lead us from the right path, we have the Holy Book, where we may track his wanderings and map our own way back again to the right course; but the doctor! he first kills you, and *then* leaves you to your remedy. (Great laughter.) In your hands, gentlemen of the jury, I now leave this important question, trusting that you will bring your common sense to bear upon it, and return a verdict which will teach the Medical Profession not to tamper at their will with the health of those who place implicit reliance on their supposed good faith.

"His Honour observed that there were several points in this remarkable and ably argued case, which he must submit to the consideration of the jury. First, whether the plaintiff asked the defendant for advice. Secondly, whether he asked for Fluid Magnesia and received Epsom Salts. Thirdly, whether he received not Epsom salts, but something equivalent. Fourthly, whether this was done through gross ignorance or negligence on the part of the defendant—because, if not, the plaintiff would not be entitled to recover. Fifthly, whether he had waived the medicine he had called for by tacitly taking what was given him in place of it. These points, and the question of amount of damages he must leave to their consideration.

"The Jury, after some discussion among themselves, retired to consider their verdict.

"In the meantime, the Judge intimated his wish to taste some of Sir James Murray's Fluid Magnesia, which, combined with the Acid Syrup, also of Sir James's preparation, appeared to make a cooling and refreshing effervescing beverage. Mr. Griffiths politely supplied His Honour with a glass of the mixture, which he pronounced, *ex cathedrâ*, to be 'delicious.' The opposing counsel and solicitor also requested a "refresher," and the whole Court, as far as the bottle would go, proceeded to try Murray's Fluid Magnesia; after which, they pronounced a unanimous verdict in its favour. At this moment the Jury returned to their box, after an absence of half an hour, and returned a verdict for the plaintiff.

"The trial lasted five hours, and excited an intense interest."

DEATH OF DR. JOHN REID.

Died, at St. Andrew's, Fife, on the 30th of July, 1849, John Reid, M.D., Professor of Anatomy and Medicine in the University of St. Andrew's. It is with great regret that we make this announcement. In Dr. Reid's death the Profession has lost one of its brightest ornaments, and those who have watched the modern progress of physiology will perceive, that one of the most philanthropic minds of the present generation has passed away.

It has for nearly two years been a source of deep grief and anxiety to all Dr. Reid's friends that he seemingly bore upon him the indications of the fatal malady which we believe caused his death. Prior to this date even, there was reason to dread the presence of cancer in the tongue, and too surely did that dream become developed. Notwithstanding the anxious solicitude of his professional friends, the affliction made such inroads upon his health that he had resigned himself to his fate more than twelve months since. At his own earnest request (whilst manfully prepared for the worst, in whatever way it might come,) an operation was performed in the month of August, 1848, which enabled him to rally so greatly, that hopes were entertained that his useful life might still be spared. But the hand of fate was upon him—his restoration to his wonted health—his relief from suffering—were of comparatively short duration. The stealthy disease made progress in the neck and throat, and finally laid in death one of the most manly frames we ever saw.

Dr. Reid's career, though brief, (he was, we think, in his 41st year,) has been eminently brilliant in the path which he chose. Early in life he devoted much attention to the study of the healthy anatomy of the human frame; and his sound elementary knowledge, in this department, doubtless gave great precision and character to his subsequent labours in pathology and physiology. Soon after obtaining his degree of M.D., in the University of Edinburgh, he was appointed Practical Pathologist to the Royal Infirmary of that city, and, whilst ably discharging the laborious duties of that important office, he was also engaged in some of those interesting physiological researches which so greatly contributed to his reputation. It was then that he made his great "Experimental Investigations into the Functions of the Eighth Pair of Nerves, or the Glossopharyngeal, Pneumogastric, and Spinal Accessory," the results of which were intimated to the British Scientific Association at the meetings of 1847 and 1848, and subsequently published in detail in the *Edinburgh Medical and Surgical Journal*, for January, 1848, and April, 1849.

Soon afterwards, he received the appointment of Chandos Professor of Anatomy and Medicine in the University of St. Andrew's, and by his presence there, as, also, by the discharge of his duties in that time honoured institution, he contributed much to raise the character of the medical degree, which now emanates in increased frequency from that ancient seat of learning.

Dr. Reid's various and numerous scientific papers were published, at first, as communications and contributions to the Journals of the day; and, on that account, many of them were in a manner overlooked amidst the vast amount of talent now devoted to this department of scientific literature. Happily for our profession, Dr. Reid was induced to reprint these papers, and publish them in a connected form, and it is not long since we had the gratifying task of reviewing the volume which they formed. Had these papers appeared in this shape for the first time, they would, without doubt, have created far greater sensation than that with which the volume was hailed. As it is, the work contains a greater amount of original and well-digested useful matter than any of the size to which we can allude, as the result of one man's labours in modern times. The "Physiological, Anatomical, and Pathological Researches," (a) of John Reid, will long form a standard work of reference to those who follow in the useful course which the Author pursued.

The published works of Dr. Reid speak for the manly vigour of his mind, and we have reason to state, that he bore his sufferings, and anticipated his early death with the greatest moral fortitude. We cannot give a higher proof on this latter point than by stating, that he actively superintended the publication of the volume to which we have referred, under the consciousness that death was fast coming upon him, and amidst sufferings from which he could get temporary relief only by strong narcotic doses. After the joyful hopes encouraged by the partial success of the operation which was performed upon his tongue, were finally damped, and his earthly doom in a manner sealed, he still devoted part of his limited time to the cultivation of science, and June, 1849, published in "The Annals and Magazine of Natural History," a most elaborate account of the Vogmarus Islandicus, which had some time recently been thrown ashore in the Firth of Forth. Whilst thus engaged adding to his earthly reputation, we know that he expressed his satisfaction at the relief which the operation afforded, and, in a communication to one of his oldest friends, he "thanked God that his time on earth had been prolonged, so that he might make greater preparations for that great change to which he looked with Christian resignation."

Dr. Reid possessed many of the national characteristics of his countrymen. His manners were quiet and unassuming. At first glance a stranger might have mistaken his qualities; but soon the broad intellectual forehead, the dark flashing eye, the shrewdness of his observations, showed that he was a person of no ordinary stamp. Among strangers he was quiet, and seemed desirous to escape observation. He was cautious in forming his friendships; but once having done so his sentiments seldom swerved. Among his intimates he was lively and social, "slow to anger," and, withal, so full of the milk of human kindness, that during an intimate friendship of more than twenty years, the writer of this brief notice never once heard an ill-natured expression pass his lips.

Take him for all in all, how rarely do we see a man like John Reid? Peace to his soul! Honour to his memory!

(a) Sutherland and Knox, Edinburgh, 1848.

MEDICAL NEWS.

Apothecaries' Hall.—Names of gentlemen who passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday July 26th, 1849 :—Edward Jackson, Sheffield; Thomas Allen, London; Arthur Octavus Arden, Beverley, Yorkshire; Richard Eaton Rusher, Oxford; William Talbott King, Hackney; Joseph Barton Carter, Beverley, York shire; Charles James Evans, Belper; George Cochrane Millar; John Markwell Todd, New Cross Road, Deptford; Thomas English; John Harrison Robotham, Wilne, Derbyshire.

Royal College of Surgeons.—The following gentlemen, having undergone the necessary examinations for the diploma, were admitted members of the College at the meeting of the Court of Examiners on the 27th inst.:—Messrs. Edward Leopard Neville, Hounslow, Middlesex; Owen William George, Plascrwn, Pembrokeshire; William Percy Pickard Mackesy, Waterford; Edward Philip Leigh, Jamaica; Edward John Vivian, Guildford-street, Russell-square; Arthur Rudge, Pakenham, Norfolk; William Aston Lewis, Manchester; Robert Adamson, Durham; John Harrison Robotham, Wilne, Derbyshire; Joseph Sawyer, Whitehaven, Cumberland; and John Earnshaw, Clithero, Lancashire. And on the 30th ult, Messrs. Charles Mathias Meller, Ecclesfield, near Sheffield; Frederick Bateman, Norwich; Thomas Kiran White, Threecastle County, Kilkenny; Thomas Llewellyn Nash, Dublin; Thomas Wilson, Elverstown, Blessington County, Kildare; David Morgan, Bodwigiad, Breconshire; John Rorie, Plymouth; Charles Augustus West, Consumption Hospital, Brompton; John Wood, Bradford, Yorkshire; Samuel Plumbe, London; and John Cromwell Blackford, Bromsgrove, Worcestershire.

Appointments.—Mr. Edwin Canton, one of the Surgeons of the Royal Westminster Ophthalmic Hospital, has just been elected Surgeon of the Royal Infirmary for Diseases of Children, in the vacancy occasioned by the resignation of Francis Hird, Esq.

Collegiate Prizes.—The Council of the Royal College of Surgeons have just announced the subject of the Collegial anatomical prize for 1851 to be, on the "Functions of the several parts of the large Intestines in Animals of the class Mammalia." The prize is of the value of fifty guineas. The Jacksonian prize subject is, "Neuralgia, its various Forms, Pathology, and Treatment," and is of the value of twenty guineas. Additional information may be obtained on reference to our advertisement columns.

War Office, July 27.—1st. Regiment of Foot.—Staff Assistant-Surgeon Edward Burrowes Sinclair to be Assistant-Surgeon, vice Hoskin, who exchanges. Hospital Staff. — Assistant-Surgeon William Thomas Hoskin, M.D., from the 1st Foot, to be Assistant-Surgeon to the Forces, vice Sinclair, who exchanges.

Obituary.—At Salisbury, 23rd ult., Richard Brassey Hole, M.D. On the 27th inst., at Stockwell, aged 36, Mr. Benjamin Kealley, of Little Newport-street, Leicester-square, Surgeon.

The Late Mr. Clift.—The sale of the effects of this gentleman commenced yesterday, and concludes this day. It is not generally known, that the lamented deceased carried the homage of his illustrious master to so great an extent, as to purchase, not only everything relating to him, but carried his feelings so far, as to expend every farthing he had in the purchase of the original engraved plate of John Hunter, by Sharp, at the sale of the effects of the latter. In the catalogue we notice several impressions from this plate, for competition; it is taken from Reynolds' picture of Hunter, and is admitted, by the best judges, to be one of the finest, if not the very finest specimen of the art ever executed in this or any other country, and is considered superior to the best efforts even of Raffael, Morghen, or Desnoyers.

Death of Mr. Andrews.—This gentleman expired at his town residence, St. Helen's-place, Bishopsgate-street, on the 28th ultimo, in the 68th year of his age. Mr. John Goldwyer Andrews commenced his study of the Profession at an early age, and, if we mistake not, was an articled student of the late Sir William Blizard, who, however, was never particularly attached to his pupil. Having finished his studies, he passed the College so long ago as the 2nd of September, 1803, and, on the 26th of May, 1827, was elected a member of the Council of the College, in the vacancy occasioned by the resignation of the late Sir Everard Home, Bart., and, on the decease of Mr. R. C. Headington, the President of the College, and his colleague at the London Hospital, he succeeded that gentleman as a member of the Court of Examiners, on the 2nd of March, 1831. On the 9th of July, 1835, he received from his colleagues the highest appointment they could bestow, that of President of the Royal College of Surgeons, an appointment that was a second time conferred on him on the 13th of July, 1843. It does not appear that these appointments were conferred on the deceased for any valuable contribution to the advancement of surgery, or success as a brilliant operator, as we have searched catalogues of libraries, transactions of learned societies, and the medical journals of the day in vain for the results of his experience. As a hospital surgeon, his advancement in the Profession appears to have been due to his good fortune, his early connexion with influential men, and the then prevailing mode of elections to hospital appointments, and collegial distinctions. Now, happily, the day is rapidly passing away in which honours can be secured without pretence to merit; and we hope to see, ere long, those positions of responsibiltiy and dignity held by men who have conferred a benefit on science and on the Profession; but, "*de mortuis nil nisi bonum.*" We understand, that Mr. Andrews was a patron of the fine arts, and had made, at his magnificent country seat, Glanbrydan, Carmarthenshire, South Wales, a collection of paintings, variously estimated of the value of from 15,000*l.* to 20,000*l.* By the death of this gentleman, a seat at the Council and Court of Examiners of the Royal College of Surgeons is rendered vacant, as also the surgeoncy of the London Hospital. The immediate cause of the death of Mr. Andrews was rupture of the aorta. Mr. Andrews possessed considerable landed property surrounding his country seat in Wales, in the improvement of which he took great interest.

The Public Health.—Again the return indicates an increase on the excessive mortality of the previous week. The deaths from all causes, which in three previous weeks were respectively 1,070, 1,369, and 1,741, rose in the last to 1,931, a number which is almost double the weekly average, and exceeds that of the former week by nearly 200. To compare these results with the deaths from all causes in four weeks, when influenza was unusually fatal, in the last quarter of 1847, it may be stated, that the mortality at that time increased in the following numbers:—1,086, 1,677, 2,254, 2,416, and in the fifth week continued to decline. The deaths from cholera, which in the three previous weeks were 152, 339, 678, rose in the last to 783, a rate of increase which, it will be observed, is not so great as in the first weeks of th outbreak. But the deaths from diarrhœa (fatal in a great majority of cases to children) and dysentery, which in three previous weeks were 54, 100, and 146, increased in the last to 238, showing a more rapid increase recently than the mortality from the more malignant form of the disease. In the corresponding week of 1848 the deaths from diarrhœa and dysentery amounted to 187, a mortality which is almost as considerable as the return of last week. The total deaths from the three diseases in the present return were therefore 1,021, whilst the weekly average of the season is only 92, a result when compared with the excess of mortality from all causes, which shows that the aggregate deaths from other diseases do not vary much from the usual amount. Small-pox, scarlatina, and typhus, however, are now under the average, especially the first two of these zymotics; measles and whooping-cough have fallen to the average. Cholera was fatal last week to 382 males and 401 females; previous returns showed a majority on the other side. The districts on the south side of the river still form the field on which the disease is most active. The deaths from it, which in this region were in three previous weeks, 93, 192, 443, rose last week to 514. There is a slight decrease in the eastern districts. In the western and northern, comprising Kensington, Chelsea, St. George (Hanover-square), Westminster, St. Martin-in-the-Fields, St. James, Marylebone, Pancras, Islington, Hackney, and Hampstead, the deaths were only 68 against 53 in the preceding week. The districts which show the greatest mortality are Bermondsey, where 64 deaths occurred last week; Newington, where there were 66; St. George (Southwark), where there were 70; and Lambeth, where there were 111. The mean height of the barometer in the week was 29·598. The temperature was generally below the average during the week. The mean was 58o.9.—*From the Registrar-General's Return.*

Presentation of Dr. Birt Davies's Portrait to Queen's College, Birmingham.—The council, professors, and tutors of Queen's College, and upwards of 100 students, partook of a splendid *déjeuner* in the dinner-hall on Friday week, on the occasion of the presentation of the portrait of Dr. Birt Davies to the Institution. The chair was occupied by the Vice-Principal, the Rev. Chancellor Law. Letters expressive of regret at unavoidable absence were received from the Right Hon. the Principal, the Earl Howe, the Lord Bishop of the Diocese, Richard Spooner, Esq., M.P., G. F. Muntz, Esq., M.P., William Scholefield, Esq., M.P., and other gentlemen. At the conclusion of the repast, the Rev. Vice-Principal delivered an appropriate address, in which he eulogised the efforts of Mr. Sands Cox, and others, in founding, establishing, and promoting the best interests of the rising College. To Dr. Birt Davies the Council owed a great weight of obligation, for devoting his time, energies, and talents to the cause of the Institution; and it had now endeavoured to do him honour by presenting his portrait to the College. Professor Birt Davies responded in a feeling and elegant speech, during the delivery of which he was frequently interrupted by the loud plaudits of the company.

The Cholera in America.—A Correspondent of the *Buffalo Express*, writing from St. Louis, July 5, says:—"The city, from a population of nearly 70,000, is now reduced to not over 30,000. Everybody has fled but those too poor to leave, or whose business compelled them to remain. The streets are deserted, except by the hearse and the mournful procession moving to the gloated cemeteries. The blackened ruins, instead of being removed and giving way to new places of business, as they would but for the pestilence, now present a sad spectacle of desolation. Few steam-boats are running, and those go away loaded with the affrighted population, but bring back no passengers. The deaths, as reported for several weeks, have been from 100 to 160 per day, while it is conceded by all who know, that from one quarter to one-third are not reported, so that the actual number of deaths, for some time past, has not been much less than 200 per day—or say 1200 per week—and that, too, in a population of from 30,000 to 35,000. Of course, hearses are constantly to be seen in the streets, and the entire night is spent in burying the dead. It is, however, an indisputable truth, that at least three-fourths of all the mortality is among the foreign population, now arriving or recently arrived from Europe. Every boat from New Orleans brings up from 100 to 500 of these poor creatures, just landed from the steerage of ships, filthy and in every respect prepared to take the disease. They are crowded like swine on the boats, and frequently many are dead before arriving at St. Louis." At New York the rate of mortality was still increasing; and quite a panic had been excited amongst the higher ranks of society. It is observed, that the variations of the atmosphere had been most unusual. In twenty-four hours a difference of 20 degrees was experienced; and whilst the heat of the 15th was the most intense known for ten years, the two days following were precisely the reverse.

MORTALITY TABLE,

(Metropolis.)

For the ... *Saturday, July 28, 1849.*

Causes of Death.	Total	Average of Five Summers
All Causes	1931	1008
Specified Causes ...	1930	1005
Zymotic (or Epidemic, Endemic, and ...) Diseases ...	1173	30[illegible]
Sporadic Diseases.		
Dropsy, Cancer and other Diseases of uncertain or variable seat	38	44
Tubercular Diseases ...	188	190
Diseases of the Brain, Spinal Marrow, Nerves, and Senses ...	126	119
Diseases of the Heart and Blood vessels ...	45	29
Diseases of the Lungs, and of the other Organs of Respiration	60	81
Diseases of the Stomach, Liver, and other Organs of Digestion ...	75	76
Diseases of the Kidneys, &c	10	11
Childbirth, Diseases of the Uterus, &c	11	7
Rheumatism, Diseases of the Bones, Joints, &c	[illegible]	
Diseases of the Skin, Cellular Tissue, &c.	1	2
Malformations	5	3
Premature Birth and Debility	25	22
Atrophy ...	[illegible]	2[illegible]
Age ...	[illegible]	43
Sudden	1[illegible]	
Violence, Privation, Cold and Intemperance	38	10
Causes not Specified	1	3

The following is the number of Deaths occurring from some of the more important special causes —

Apoplexy	28	Heart	13	Phthisis	121
Bronchitis	62	Hooping cough	2[illegible]	Pneumonia	[illegible]
Cholera	784	Hydrocephalus	11	Scarlatina	[illegible]
Childbirth	5	Influenza		Small pox	
Convulsions	41	Liver	12	Stomach	
Diarrhœa	224	Lungs	8	Teething	
Dropsy	16	Measles	30	Typhus	
Erysipelas	4	Paralysis	1[illegible]	Uterus	

BIRTHS AND DEATHS

	Births	Deaths	Deaths over Births
Males	68[illegible]	952	263
Females	624	9[illegible]	355
Total	1313	1931	618

METEOROLOGY OF THE WEEK

Day	Mean of Barometer	Mean of Thermometer Dry	Ditto Dew Point	Difference between the Mean Temperature of the day and the same day on an average of 7 years	General Direction of Wind		Amount of Horizontal Movement of the Air	Rain in Inches	[illegible]
Sunday	29.878	61.3	49.6	+0.9	A.M. S.W	S.[illegible]	11	0.0	Nothing
Monday	29.859	57.0	53.[illegible]	−3.6	[illegible]	S.W	1[illegible]	0.26	Ditto
Tuesday	29.312	[illegible]3.3	[illegible]4.7	−5.6	S.W	S.W	120	0.7[illegible]	P.M. sudden squalls changing to N. W. strong tension during rain
Wednesday	29.[illegible]30	[illegible]	[illegible]1.8	−[illegible]5	[illegible]W	S.[illegible]	1[illegible]0	0.[illegible]	N. & strong tension rain
Thursday	29.45	57.[illegible]	[illegible]1.9	−3.0	[illegible]	[illegible]	7[illegible]	0	From [illegible] to 3 p.m. strong P.M. other times strong N with sparks & galvanic effects
Friday	29.77[illegible]	61.[illegible]	[illegible]	−0.[illegible]	W	S.W	4	0.2	Nothing shown
Saturday	29.843	62.0	[illegible]2.6	−1.3	[illegible]	S.S.W	8[illegible]	0.(0)[illegible]	P. [illegible] weak at different times in the day
Means	[illegible]	5[illegible].9	[illegible]	—	[illegible]W		[illegible]	2.1[illegible]	

* In this Column [illegible] for [illegible] the [illegible] — Negative and P for Positive.

TO CORRESPONDENTS.

Last week, we received the following Advertisement, to which, it is hardly necessary to say, we refused admittance —

"To Medical and Surgical Practitioners, &c —A Gentleman, who has served an apprenticeship to an Apothecary, and who holds his indenture, but who has not attended the courses of lectures, from his attention having been absorbed in years of practice, and being threatened by an action from the Apothecaries' Company, has resolved at last to obtain a diploma If it can be procured without much loss of time, would be glad to avail himself of the assistance of any gentleman who could aid to procure the article in question, shall be liberally rewarded

The Advertiser contemplating emigrating the document of any gentleman relinquishing the Profession might answer his object —Address, - -, Liverpool, until called for

Among the numerous tricks adopted to gull the public and hoodwink the profession, this is remarkable, on account of its novelty The gentleman who is so anxious to obtain a diploma without much loss of time has, upon the strength of five years' apprenticeship engaged in the practice of the healing art Doubtless he has ranked amongst those worthies who have performed cures in cases which more legitimate doctors have pronounced incurable. He is evidently a precocious genius for scarcely does he escape from the trammels of apprenticeship than he plunges *in medias res* of medical practice and has his attention so completely absorbed with it that he casts aside the thought of attending lectures or of obtaining a diploma How the sleeping Cerberus of Water lane was roused to attack him we are at a loss to conjecture and it seems that, once awake, no sop which this modern Hercules of medicine could throw was sufficient to lull him again to sleep A diploma must therefore, be obtained but how is this to be done without much loss of time? A genius who had accomplished such wonders in the practice of physic felt himself equally competent to did [illegible] a Medical Corporation There were numbers of diplomaed doctors without patients and who would be glad to dispose of, to them the worthless paper upon advantageous terms A daw in borrowed plumes might perchance be plucked but at least for a season he would pass for a genuine peacock and the deception might never be discovered in a distant colony The resolve is made, the gentleman "absorbed in years of practice" sends an advertisement to the 'Medical Times,' and expects as many applicants as a merchant who advertises for a confidential clerk, who would receive a salary of £1000 a year and have but little to do

We have done what we could to foil such a disgraceful attempt to mislead the Profession and the public We have reason to fear that there are persons, both at home and abroad who practise with borrowed titles and we should rejoice in their exposure and punishment Our Medical Corporations should not only publish annually, a correct list of their members, but should endeavour to ascertain when any of them die in order to erase their names from the lists The friends of deceased medical men should also take care that their diplomas and certificates be not disposed of as waste paper What we want among other things is a proper register of all qualified Medical Practitioners in the three kingdoms

"H S Holborn" will find a letter at our publishers

"Anatomist"—The "*post mortem*" gloves were invented by M Blatin They are made of very thin cautchouc, and do not diminish the sensation of the fingers

"An Apprentice"—The term empiric is derived from the Greek word *εμπειρικος* and was applied originally to a medical practitioner who trusts to experience alone for his knowledge of medicines and diseases, totally discarding all theory and speculation It is now used in a very different sense

"A Surgeon"—We lament in common with our correspondent the great destruction of human life from poisoning by arsenic We fear however that the suggestion of substituting for the mineral when asked for cream of tartar will not prevent the evil We think that arsenic ought not to be sold by retail druggists to casual customers

"A Subscriber Leicester," informs us that he has been much annoyed in prescribing the Ext Tar Tarax, as prepared according to the London Pharmacopœia to find it very frequently inert and wishes us to inform him, if there is a better method of preparing it than that ordered by the College The officinal extract does not possess the virtues of the root By exposure to air during ebullition, a quantity of grape sugar is formed at the expense of the peculiar starch or inulin of the root and a portion of the active principle the product is a preparation without power A very different article, however is obtained by simply crushing the fresh root, diluting with about one gallon of water to the cwt separating the juice by hydraulic pressure, coagulating, filtering and evaporating the clear liquor in vacuo free from atmospheric depreciation Thus prepared, the inspissated juice is firm and transparent, possessing the true flavour of the root, and the medicinal properties of the herb unaltered. The best time for collecting the roots is in November.

"Inquirer"—Arterial blood always contains some carbonic acid; venous blood, oxygen

"Galen"—To obtain a medical degree at Oxford, a residence in some College or Hall is required. We would advise our Correspondent not to trouble himself about such a diploma, as it affords no proof of superior medical education

"G. M T."—There is no chemical change when calomel and pulv. antimonials are mixed

"Medicus"—Amorphous quinine is a much cheaper preparation than the Sulphate

"Scotus"—The Apothecaries' Company will not prosecute a properly educated medical practitioner not possessing its certificate

"Mr Leonard."—We know nothing of the Society referred to

"A Student" should address a letter to the Secretary of the College of Surgeons.

"Miles"—A Member of the Edinburgh College of Surgeons is eligible for an army medical appointment

"A General Practitioner" not being a licentiate of the Apothecaries' Company cannot recover the amount charged for attendance &c, on a medical case

"Dubitans"—Cancrum oris sometimes occurs without any mercury having been given to a child In the case mentioned we should hardly think that so small a quantity of calomel produced such serious consequences The disease is more common after measles, than other eruptive diseases, and it is always connected with a depressed state of the vital powers

"Kappa"—Cinchonine is rather less soluble in water than quinine, and more readily crystallizable than that alkaloid

"M D"—Much consideration is requisite We will give the subject our best attention

"Adolescens"—(1) No Assistant Surgeon in the Navy can be promoted to the rank of surgeon until he has served three years in the former capacity one year of which must be in a ship actually employed at sea (2) We have not heard of any recent notification from the Admiralty in behalf of Navy Assistant Surgeons

"A Retail Chemist" should address his letter to the Board of Stamps Somerset house

"Anglicus"—The School of Physic in Ireland is connected with Trinity College and the King and Queen's College of Physicians The School consists of six professors on the foundation of Sir Patrick Dun The College of Physicians has also established two additional professorships, —midwifery and medical jurisprudence

"M B"—We believe that some poisons are absorbed into the circulation, and being eliminated by the kidneys may be detected in the urine by their chemical or physiological reactions

"An Experimentalist"—Adipocere is probably nothing more than an animal soap with a base of Ammonia or lime the former making being the result of the decomposition of the nitrogenized principles of the body while the fat becomes acidified

"Rusticus"—The Censors and other officers of the College are elected on the 25th of June, when the Harveian oration is delivered

*** "Camberwell"—We do not think the Ergot of Rye exerts any decided influence on the unimpregnated uterus

"Medicus" informs us that the St Andrew's diploma is 3s not £3 more than the Edinburgh

"A Reformer of Abuses" says that the only and legitimate method of putting down quackery is to restore into the hands of the apothecary or chemist his own office,—that of dispenser If this is done, he will not presume to act in the capacity of prescriber nor will he demean himself by supplying the uneducated quack with drugs to cheat the public as it would be injurious to himself and the prescriber

Dr Coppinger will see that his request has been attended to

"W R Hope Jones, Conway"—Communication received

"Dr M Wylie, Glasgow."—A brief abstract of the paper was inserted in the 'Medical Times' in the Column to Correspondents shortly after its receipt The number we cannot exactly name

"Scrutator"—Communication received

Boven County Cork Ireland —1 The French gramme is rather more than 15 grains avoirdupois the decigramme rather more than a grain 2 We are not aware of any formula for the exhibition of the alkaloid

"M D" states that in a girl, at the early age of 5 years and 9 months the catamenial discharge appeared, and has continued with but slight intermissions to the present time She is now 17 years of age, and has grown but little.

"Mr Wm Thomas Pembroke Dock" bears testimony to the utility of Mr Brown's remedy in the treatment of cynanche tonsillaris Our correspondent first used it about twenty years ago in an obstinate case of chronic inflammation of the pharynx, with marked success Since then he has used it extensively in acute and chronic inflammation of those parts with evident benefit In ulceration of the tonsils and preventing suppuration, if early used, he has found it most advantageous.

"Mr Liddle's" letter shall appear next week.

"Dr J Hooper, Buntingford, Herts"—"On Imperforate Anus"—Received

Dr Rigby's valuable paper on Anteversion of the Uterus will appear next week also Dr. Day's interesting communication on the Thermic Treatment of Rheumatism.

ORIGINAL LECTURES.

LECTURES ON THE CHEMISTRY OF THE POISONS; OR, ON PRACTICAL TOXICOLOGY.

SHOWING THE APPLICATIONS OF CHEMISTRY TO THE DISCOVERY OF CRIME.

By H. LETHEBY, M.B., Lond:
Lecturer on Chemistry at the Medical College of the London Hospital.

LECTURE IV.

General remarks on the mineral acids.—Sulphuric Acid — Composition of the several varieties of it, as of the pure acid; Nordhausen-acid, the strongest acid of English commerce; ordinary commercial acid; Graham's acid. Physical properties of oil of vitriol; its density.—Ure's Table of specific gravities; Letheby's ditto; boiling points of the different acids.—Chemical properties of sulphuric acid; its affinity for water, table of temperatures produced by mixing it therewith, action of this acid on litmus; the delicacy of the test; action of the acid on metals; action of it on organic matters, general mode of action thereon; its action on sugar, flour, starch, wood, and linen cloth.—Concluding remarks on its mode of action on vegetable substances.

We will proceed to-day, gentlemen, to the proper business of the course, and commence our work by instituting an inquiry into the physical and chemical characters of the *mineral acids;* under which name I include sulphuric acid, nitric acid, and muriatic acid. These acids are very common articles of trade; for they are largely used, not only for the execution of numerous processes of the arts, but also for a variety of manufacturing and domestic purposes. They are, therefore, accessible to all persons, and may be purchased at any time without exciting suspicion or inquiry. But, for all this, the instances in which the mineral acids have been employed as poisonous agents, are, comparatively speaking, few; and this you will readily understand when you consider that the very powerful acid and styptic taste of these liquids is generally sufficient to prevent them from being used by the secret poisoner: nevertheless, there are a few cases on record, in which persons have made choice of one or other of these acids for the purpose of destroying young children. Occasionally, also, they have been used for suicidal purposes, and not unfrequently they have been swallowed by accident. Moreover, a few years ago the mineral acids were very often employed by the mischievous and ill-disposed for the purpose of staining, or corroding the dress of individuals.

All these circumstances indicate a necessity for your being acquainted with the physical and chemical properties of these liquids, so that you might be enabled, not only to recognise the peculiar effects which are manifested by them, but also to resort to the means whereby the agents themselves may be detected.

SULPHURIC ACID.

The strong solutions of this acid are commonly termed oil of vitriol; and they have received this name on account of their thick oily appearance, and also by reason of the fact that the acid was originally procured by the destructive distillation of green vitriol, or common sulphate of iron: indeed, the process whereby it was at first obtained from this source is still resorted to in many parts of Saxony, as at Goslar, Nordhausen, &c.; and chemists are thus enabled to obtain an acid of greater strength than that which ordinarily occurs in English commerce.

COMPOSITION OF THE SEVERAL VARIETIES OF SULPHURIC ACID.

1. *Pure Anhydrous Sulphuric Acid* is a rare substance;—it consists of one equivalent of sulphur, equal to 16 parts, and three equivalents of oxygen, equal to 24 parts, making an equivalent of sulphuric acid, the combining proportion of which is 40; and the symbol for which is SO_3; or, to represent its composition by per centage numbers, it consists of 40 parts of sulphur and 60 of oxygen.

2. *Oil of Vitriol of Commerce* is composed of this dry acid, and various proportions of water; for example:—

(a) *The Nordhausen, or Saxony Sulphuric Acid,* which is the strongest of all commercial varieties, has a specific gravity of 1900, and it is said to be a compound of two equivalents of dry acid, equal to 80 parts, and one equivalent of water, equal to 9 parts. Its formula, therefore, is $2\,SO^3 + HO$, and it contains about 90 per cent. of anhydrous acid.

(b) *The strongest Acid of English manufacture* has, according to Dr. Ure, a specific gravity of 1845, and it is composed of one equivalent of dry dry acid, equal to 40 parts, and one equivalent of water, equal to 9 parts. Its formula, therefore, is $SO^3 + HO$, and it contains about 82 per cent. of anhydrous acid.

(c) *Ordinary Sulphuric Acid of English Commerce,* is a very variable liquid; that which has a specific gravity of 1843, is presumed to be a compound of four equivalents of dry acid equal to 160 parts, and five equivalents of water, equal to 45 parts. Its formula, therefore, is $4\,SO^3 + 5\,HO$, and it contains about 78 per cent. of anhydrous acid.

(d) *A fourth Acid has been referred to by Professor Graham,* which has a specific gravity of 1780; and it consists of one equivalent of dry acid equal to 40 parts, and two equivalents of water equal to 18 parts. Its formulæ, therefore, is $SO^3 + 2\,HO$, and it contains about 81 per cent. of real acid.

(e) Lastly, an acid has been mentioned by the same authority which has a specific gravity of 1682, and which consists of one equivalent of dry acid, equal to 40 parts, and three equivalents of water, equal to 27 parts. Its formula, therefore, is $SO^3 + 3\,HO$, and it contains about 60 per cent. of anhydrous acid.

All of these varieties of commercial acid are generally regarded as definite compounds of dry sulphuric acid and water, while the other and more varying specimens of oil of vitriol are considered to be accidental mixtures of these liquids. For my part, however, I am not disposed to view the subject in such a light; but am tempted rather to believe, that nearly all the varieties of dilute oil of vitriol are true chemical compounds; and I think that we shall have sufficient evidence of this when we proceed to effect the various mixtures of sulphuric acid and water.

PHYSICAL PROPERTIES OF OIL OF VITRIOL.

The stronger varieties of sulphuric acid, have an oily, or rather syrupy, appearance; and those which contain more than 85 per cent. of real acid, have the property of fuming in the air. Oil of vitriol, when pure, is entirely without colour and smell. It is a heavy liquid, having a specific gravity which may be nearly double that of distilled water; the weight of the acid, however, varies with its strength; for while the Nordhausen acid frequently has a specific gravity of 1900 (water being 1000), the strongest acid of English commerce never exceeds the density of 1845. This, in fact, is, the number which has been chosen by the Colleges of London, Edinburgh, and Dublin, in order to designate the standard strength of the strong sulphuric acid of their Pharmacopœias; but it is very difficult to procure an acid of such a density; or, having procured it, it is very difficult to keep it at that strength, for the very strongest oil of vitriol which can be obtained by our mode of manufacture, never exceeds the density of 1845·5; and the affinity of this acid for water is so great, that small quantities of it cannot be exposed to the air even for a few minutes without its specific gravity being more or less lowered. To judge from my own experience, I am disposed to think, that good commercial samples of oil of vitriol generally range between 1836 and 1840; but, as from accident or design, the acid may become still more diluted, so its density will sink even below the smaller of these numbers. In order to exhibit to you, therefore, the relative strengths and weights of such acids, I have brought before you this Table, which has been taken from the monograph of Dr. Ure.

TABLE exhibiting the RELATIVE PER [illegible] of ANHYDROUS SULPHURIC ACID, in [illegible] of Different Densities.

Sp.	Per Cent. of Dry Acid.	Sp. gr.	Per Cent. of Dry Acid	Sp. gr.	Per Cent. of Dry Acid.	Sp. gr.	Per Cent. of Dry Acid.
1846·0	81·54	1650·0	61·15	1358·4	40·77	1179·2	[illegible]
1843·8	80·72	1645·5	60·34	1376·6	[illegible]	1170·5	[illegible]
1841·5	79·89	1632·1	59·52	1369·7	39·14	1162·0	18·75
1839·1	79·08	1620·4	58·71	1351·2	[illegible]	1154·9	17·94
18[illegible]·6	78·28	1609·0	57·89	1333·0	37·51	1148·0	17·12
1834·0	77·46	1597·5	57·08	1344·0	36·69	1141·0	16·31
1828·6	76·65	1585·8	56·26	1334·5	35·88	1133·6	15·49
1823·5	75·83	1570·0	55·45	1326·5	35·06	1124·6	14·68
1818·1	75·02	1564·8	54·63	1316·6	34·25	1116·5	13·86
1802·0	74·20	1550·6	53·82	1308·0	33·43	[illegible]	13·05
1807·0	73·39	1539·0	53·00	[illegible]	[illegible]	1101·9	12·23
1798·6	72·57	1528·0	52·18	1291·3	31·80	1095·3	11·41
1790·1	71·75	1517·0	51·37	1282·6	30·98	1088·7	10·60
1781·5	70·94	1506·0	50·55	1274·0	30·17	1080·9	9·78
1772·8	70·12	1495·0	[illegible]	1265·4	29·35	1074·4	8·97
1764·0	69·31	1486·0	45·02	1257·2	28·54	1068·2	8·15
1754·0	68·49	1476·0	48·11	1249·0	27·72	1061·4	7·34
1742·5	67·68	1466·0	47·29	1240·0	26·91	1051·4	6·52
1731·5	66·86	1456·0	46·48	1233·4	26·09	1047·7	5·71
1720·0	66·05	1446·0	45·66	1226·0	25·28	1040·5	4·89
1708·0	65·23	1436·0	44·85	1218·4	24·46	1033·6	4·08
1697·2	64·42	1426·5	44·03	1210·8	23·65	1026·6	3·26
1686·0	63·60	1417·0	43·22	1203·2	22·83	1020·6	2·446
1674·4	62·79	1407·8	42·40	1195·6	22·01	1014·0	1·63
1662·4	61·97	1397·7	41·58	1187·6	21·20	1007·4	0·8151

In presenting this table to you, I ought to remark that I have generally found that Dr. Ure has slightly underrated the true amount of dry acid in these solutions; and I must beg your attention to another table, which is founded on my own experiments, in order to illustrate this.

TABLE showing the QUANTITY of ANHYDROUS SULPHURIC ACID IN LIQUIDS OF DIFFERENT DENSITIES.

Specific Gravity.	Per centage of Acid.	Specific Gravity	Per centage of Acid.
1840·9		1136·2	16·41
1616·8	61·54	1014·8	1·65
1548·6	54·70	1008·2	0·82
1390·0	41·02	1004·8	0·41
1245·4	27·8[illegible]	1002·3	0·2[illegible]

Again, questions may arise in a court of law as to the bulk and weight of some popular measure full of one or other of these acids; and although such questions can never involve any matters of very great importance, yet it is right that you should be put in a position to answer them. To this end you are to bear in mind that a tea-spoonful of distilled water measures about ʒj., and weighs about 60 grs.; that a tablespoonful measures from ʒiv. to ʒvj., and weighs from 240 to 360 grs.; that a wineglassful of this liquid measures from ℥iss. to ℥ij., and weighs from 720 to 960 grs.; and that a teacupful measures about ℥v., and weighs about 2400 grs. Having these data before you, or, what would be still better, the absolute bulk of the vessel employed, you can readily make the desired calculations. Supposing, for example, that a question arose as to the bulk and weight of a teaspoonful of acid which had the specific gravity of 1836: you will answer that a teaspoonful measures about ʒj., and in order to arrive at the weight of the acid we employ a simple rule of three, and say, that as 1000 (the sp. gr. of distilled water) is to 1836 (the sp. gr. of the acid in question), so is 60 (the weight of ʒj. of water) to 110·16 (the weight of ʒj. of the acid).

The boiling point of oil of vitriol is another physical property which we ought to consider, and we shall find that while the Nordhausen acid boils at about the temperature of 120 of Fahr., that of English commerce requires a degree of heat as high as about 600°, in order to be converted into vapour. The weaker acids, however, may be distilled at much lower temperatures; for, according to Prof. Graham, an acid having the specific gravity of 1780 will boil at a temperature of 435 of Fahrenheit, and that which has a density of 1650 will boil at the temperature of 350° Fahrenheit, and so, as we weaken the acid, is the boiling point reduced. Again, we find that, when we take a weak acid, and subject it to distillation, the greater portion of its water is

first driven off, and the boiling point is continually rising, until, in fact, the acid acquires a density of 1845·5, when the temperature at which it vaporises is 620°. So again, with reference to the Nordhausen acid; while the strong acid at first boils at about the temperature of 120° Fahrenheit, yet, as the process of distillation is carried on, the acid becomes weaker, and the temperature is continually rising until it ultimately boils at 620° Fahrenheit. At this time it will be found that the liquor contained in the retort is no other than common oil of vitriol, having a specific gravity of 1845·5.

CHEMICAL PROPERTIES OF OIL OF VITRIOL.

1st. *With regard to its affinity for Water.*—Sulphuric acid has a great affinity for this liquid, insomuch that when the ordinary acid is exposed to the air it will rapidly absorb moisture therefrom and acquire an increase of weight; in fact, during very damp weather this increase may amount, in the course of twenty-four hours, to one-fourth of the weight of the acid employed. We find, also, that when oil of vitriol is poured upon organic substances it generally discolours them, in consequence of its attracting water, or the elements of water, and liberating carbon. Again, when sulphuric acid is mixed with water, it commonly gives rise to a great exaltation of temperature. Dr. Ure states that a mixture of four parts by weight, or of two by measure, of a concentrated acid, having the density of 1845, with one of water, will produce a temperature as high as 300° Fahr. This circumstance may be of some importance in a medico-legal point of view; and I have, therefore, been at great pains to ascertain the temperature and condensation which result from the mixture of water with acids of different strengths. The following table exhibits the general tenour of my experiments, and I ought to inform you that my investigations were made when the surrounding temperature was as high as 72° Fahr.

TABLE showing the HEAT and CONDENSATION which result from various MIXTURES of SULPHURIC ACID with WATER.

gr. of Acid used		Bulk of Acid used.	Weight of Water used	Bulk of Water used.		Bulk of Resulting Fluid when cold.	
1840	000	℥iij. & ʒvj.	1000	℥ij. & ʒij.	266		1616
1840	2000	℥iiss.	1000	℥ij. & ʒij.	252	℥iv.	1518
1840	000	℥i. & ʒij.	1000	℥ij. & ʒij.	210	℥iij.	1390
1840	500	ʒv.	1000	℥ij. & ʒij.	198	℥ij. & ʒivss.	1245
1840	250	ʒiiss.	1000	℥ij. & ʒij.	130	℥ij. & ʒiij.	1136
1616	616	℥ij. & ʒij.	1000	℥ij. & ʒij.	119	"	1282
1548	518	℥ij. & ʒij.	1000	℥ij. & ʒij.	108		1246
1390	390	℥ij. & ʒij.	1000	℥ij. & ʒij.	95		1170
1245	245	℥ij. & ʒij.	1000	℥ij. & ʒij.	81		074
1138	138	℥ij. & ʒij.	1000	℥ij. & ʒij.	78		055

From this Table, it will be evident, that both the heat and condensation are always greater in proportion to the strength and quantity of the acid employed. According to Dr. Ure, the greatest heat and condensation are effected when strong oil of vitriol and water are mixed in such proportions as to produce a liquid which has the specific gravity of 1,632·1; and I may remark, that the temperature is always a little higher when the water is poured into the acid, instead of the acid into the water. My experiments also inform me, that the temperature of the mixture rapidly falls; that, for example, when the heat produced has been very great, it falls in about ten minutes from thirty to fifty degrees below the original point; and, unless large quantities of the fluids have been used, the mixture acquires the temperature of the surrounding atmosphere in about half an hour.

2nd. *Action of Sulphuric Acid on Litmus Paper.*—For the most part, the action of this acid on litmus is very marked; but it begins to fail in producing its reddening effect, when its solutions are diluted so as to contain only ·015 per cent. of dry acid.

3rd. *Action of the Acid on Metals.*—When the strong acid is boiled upon zinc, copper, mercury, silver, &c., it undergoes decomposition, and evolves the vapour of sulphurous acid. This acid is recognised by its odour, (that of a burning match) and by its reddening and then bleaching a small piece of turnsol paper. A far more delicate test, however, for sulphurous acid, is the following:—Take about ʒj. of starch, rub it down with ℥j. of boiling water, and dissolve therein about 10 grs. of iodic acid, or iodate of potash; moisten a piece of white filtering paper with this solution, and hold it over the mouth of the vessel from which the sulphurous acid is being evolved; the paper will instantly acquire a deep blue tint. The action of this test is dependent on the power which sulphurous acid possesses of reducing iodic acid, and thus setting iodine *free*, which instantly produces with the starch a deep blue compound, iodide of starch. I shall have occasion more particularly to direct your attention to this test when I speak of the mode of detecting sulphuric acid in organic mixtures.

I have found from experiments, that acids which have a specific gravity below 1616, or which contain less than 61 per cent. of dry acid, will not act on metallic copper or silver, and will not, therefore, evolve sulphurous acid when they are heated with either of these metals. The dilute acid, however, will act, though in quite a different manner, on many of the common metals, as, for example, on zinc and iron. In these cases, the action is accompanied with the evolution of hydrogen gas; and you may perceive, from the slight effervescence which is here going on, that dilute sulphuric acid will act on these metals when its density is not greater than 1002. The action is even observable when the solution does not contain more than 0·00128 per cent. of dry acid.

4. *Action of Sulphuric Acid on Organic Substances.*—This part of our inquiry is of considerable importance to the medical jurist, and we shall, therefore, discuss it very fully. At the onset, however, I may premise, that the strong acid exerts a very energetic action on almost every kind of organic compound; and it does so either by abstracting water or its elements, therefrom; or by entering into union with the whole or a part of the organic group, or by being itself decomposed and converted into sulphurous acid, or hyposulphuric acid, the last of which generally enters into very intimate combination with the residual portion of the organic substance. Instances of each of these modes of action will occur to us as we proceed.

(a) *Action of Sulphuric Acid on Sugar.*—Strong oil vitriol acts directly on every species of cane sugar, and causes a marked discoloration of this substance. It does so in consequence of its liberating charcoal by abstracting water, or the elements of water from the organic group. This effect is very manifest when we pour oil of vitriol upon strong syrup. It is even evident when we use an acid, the density of which is no greater than 1616, provided we add it to the solid sugar; but when the sulphuric acid is diluted so as to bring its specific gravity down to about 1400, it requires time,—that is, a period of two or three hours, for the manifestation of this effect, and even then, with an acid of the last named strength, the discoloration is not very complete. Solutions which are weaker than this do not, at ordinary temperatures, exert any marked action on saccharine matter; but if the temperature be raised, and the liquid evaporated, it will be found that even ʒij. of a solution which does not contain more than 0·005 per cent. of *free* acid,—that is, about the 6-1000ths of a grain, will readily char about five grains of sugar. Now, as questions of an intricate and somewhat contradictory nature have been raised in Courts of Law with regard to the results which follow from the mixture of oil of vitriol, water, and sugar, it is important that we should examine this point in a very careful manner; for an Advocate's defence has, and for aught I know, may again be constructed on the supposition that a person might ignorantly administer sulphuric acid upon a lump of sugar, believing it to be spirits of anise, gin, or some other colourless cordial. Let us see, however, whether the facts of the case will bear out such a supposition.

If we put a few drops of oil of vitriol, having a specific gravity above 1600, upon a little sugar, it will instantly char it; and this effect is still more marked when we drop a piece of sugar into a teaspoonful of such an acid; so that it is hardly possible for any individual to perform such an act under the belief that he is using a cordial, without instantly discovering that a mistake has been committed.

It may happen, however, that the proceeding is conducted in a different manner, and that the sugar is first put into a little water, and the *spirit* afterwards added to it. Put, therefore, a knob of sugar into a procelain basin, and pour ʒj. of water upon it, then add ʒj. of oil of vitriol, and you will observe that the sugar is instantly blackened, and that the temperature of the mixture rises to about 180° Fahr. If we use ʒij. of water, the same kind of discolouration is effected, and the temperature rises to 176 Fahr. On using ʒiij. of water, the sugar is still darkened, and the temperature rises to about 170 Fahr. And, lastly, if we employ as much as ʒiv. of water with ʒj. of acid, there is still a transient discolouration over the surface of the sugar, and the temperature of the mixture rises to about 140° Fahr.; so that, to say nothing about the acidity of these mixtures, and the fact that nurses are accustomed to taste such liquids before they administer them to young children, it would be absolutely impossible for any individual to commit a mistake of this kind without instantly perceiving that something had gone wrong in the matter.

Mr. Taylor has discussed this question in his recent Work on Poisons, and he has come to a like conclusion, for he says, by way of comment on some experiments, which are therein mentioned:—"Thus, then, it will be seen, that even by putting acid and water, or water and acid, before the sugar, the carbonizing action of the acid is well marked. It is only when the acid and water are *thoroughly intermixed before* the addition of the sugar, that the liquid does not become blackened."

(b) *Action of Sulphuric Acid on Flour and Starch.*—When the strong acid of sp. gr. 1800 is poured on flour, it renders the latter substance of a deep violet red colour; but an acid having a density below 1800, does not, at ordinary temperatures, affect the colour of farinaceous substances. The production of this colour is due to the gluten which is contained in ordinary flour, for the acid will not act in this way upon pure starch, but will require time for the carbonization of this substance. When, however, a weak solution of sulphuric acid is boiled with any kind of feculent matter, it converts the starch into sugar, and the liquid loses the property of being coloured blue by iodine. I find that very small quantities of acid have the power of effecting this change; for if we take an ounce of a liquid which does not contain more than half a grain of free acid—that is, about 0·1 per cent. of it, and boil it in a flask on one grain of starch for about one hour and a half, or until it is nearly dry, and then add enough water to make up the original bulk of the liquid, it will be found that the whole of the starch has been decomposed, and that the solution has lost the property of acquiring a blue tint when it is tested with iodine.

(c) *Action of Sulphuric Acid on Wood.*—A strong acid of specific gravity above 1700 chars wood directly it touches it, while an acid, the density of which is between 1600 and 1700, require a few minutes for the manifestation of this action, and then the wood merely acquires an olive-green tint. Again: Those acids which range between 1600 and 1400, will not produce such a change unless they are allowed to stand on the wood for about twelve hours; and weaker solutions of the acid do not effect any discolouration whatever of the ligneous tissue.

(d) *Action of the Acid on Paper.*—Those specimens of oil of vitriol which have a density above 1800 act immediately on white paper; for they discolour it, and rapidly dissolve it; while those acids which are weaker than the last-named do not effect any immediate visible change on this sub-

stance. If, however, we sprinkle a little dilute acid, the density of which may be as low as 1100, on white paper, we shall find that there is some difficulty in getting the paper dry; and when this is effected, the paper will either turn black where the acid has fallen on it, or it will become very brittle and crumble away when it is rubbed between the finger and thumb. This property is manifested by solutions which do not contain more than 1-200th per cent. of free acid.

(e) *Action of Sulphuric Acid on Linen Cloth.*—Acids which possess a specific gravity above 1700 will carbonize linen cloth directly they are dropped on it. It will be found, moreover, that in the course of from five to fifteen minutes the fibre of the cloth is either completely corroded away, or else it is so rotten that it tears on using the slightest force to it. Acids which have a density between 1700 and 1600 will also darken such a fabric, but the corrosion of the tissue is never so manifest, notwithstanding that it becomes very rotten after a period of twelve hours. This property of rotting the cloth in the course of from twelve to twenty-four hours, and of keeping it damp, is possessed by solutions which do not contain more than the 1-200 per cent. of free acid. You will remark, moreover, that in those cases where the discoloration has been very complete, the original white tint of the linen is often restored when the cloth is steeped for a few minutes in water.

On reviewing the facts which I have here detailed, it will be manifest that sulphuric acid exerts a marked action on all the common forms of vegetable substances; and that it does so when the acid is strong, in consequence of its affinity for water, or for the elements of water; for in all those cases in which a marked discoloration has been effected, the organic molecule has suffered a more or less complete disintegration, its oxygen and hydrogen having been removed, and its carbon set free. When, however, the discoloration has not been so manifest, and we have employed a weaker acid, the elements of the organic molecule appear to have been reduced to a simpler group: in the case of cane sugar, for example, which consists of (C_{12} H_9 O_9 + 2 aq.), it is converted, without any discoloration, into grape sugar, which has a composition of (C_{12} H_{14} O_{14}) and so with regard to starch or flour, the great bulk of which is composed of (C_{12} H_9 O_9, HO + 2 aq.), of wood or linen cloth, the basis of which is cellulose, (C_{24} H_{21} O_{21}). Dilute sulphuric acid has the power of reducing these bodies to simple structures, and of converting them into grape sugar (C_{12} H_{14} O_{14}).

It is in this way that we are enabled to explain the difference in the action of strong and of weak acids, the former of which abstracts water, and so carbonises the vegetable substance, while the latter slowly converts it into grape sugar, which crumbles away or dissolves when the tissue is rubbed or put into water.

At our next meeting, gentlemen, we will proceed to inquire into the action of sulphuric acid on animal substances.

LECTURES ON OPERATIVE OPHTHALMIC SURGERY.

DELIVERED AT THE CENTRAL LONDON OPHTHALMIC HOSPITAL.

By H. HAYNES WALTON, Esq., F.R.C.S., Surgeon to the Hospital, and to the St. Pancras Royal General Dispensary.

LECTURE III.

Cataract.—Importance of a proper selection of Cases for Operation.—A healthy iris a valuable index of a healthy eye.—Inquiry into the size and motions of the pupil, and the effect produced in them by cataract.—State of retina, and general condition of globe.—Difference between cataract and amaurosis, and cataract and glaucoma.—Preparation of patient for operation.

GENTLEMEN,—It is not enough to recognise cataract, or to distinguish the different forms of it; you must be able to decide when a case may be operated on with fair prospect of success, and when the operation should not be attempted.

The most valuable criterion for our guidance in this respect, is the condition of the pupil, with the different changes it presents, according to the degree of light to which the retina may be subjected.

Whenever the deep-seated textures of the eye are diseased or impaired, the iris is influenced either from extension of morbid action, or functionally, so that it ceases to be a freely-acting muscle, and may be said to be unhealthy, and a sufficient index that the globe is unsound and an operation inadmissible. The converse of this does not always hold good. When I speak of the difference between incipient cataract and amaurosis, I will point out at least one notable exception.

The iris may have been diseased, without permanent injury to other parts of the eye, or even to itself, beyond mechanical hindrance to its motion from adhesion of the pupil. Adhesion alone would not prohibit operation; but if, with it, the iris has lost brilliancy and colour, the probability is, that the disease has, by its intensity or duration, spoiled or materially affected some or all of the important tissues of the globe.

Where there is an irregular pupil, with imperfect movements, adhesions must be suspected, and, if not at once detected, sought for by using belladonna, which will always dilate the free portions, and make apparent any fixed parts. Indeed, all cataractous eyes should be submitted to its influence; for, when least suspected, such adhesions, more or less partial, may be present, and a knowledge of the slightest confinement of the pupil is of consequence, as I shall show when describing the operation of extraction.

As the size of the pupil varies in different individuals under the same amount of light, it is not, taken alone, worth much as a diagnostic. Your own observation must have furnished you with instances of individuals in whom it varied considerably, and who, notwithstanding, saw equally well. There is a relation, I do not say invariable, but sufficiently constant to be recognised, between it and certain temperaments,—a fact too often overlooked. In the same person there should be no disparity of size, although cataract be more advanced in one eye than the other, or one be not even implicated.

It is the action of the pupil, then, and not the dimension, that is of such value, although, in that you will find variation in different persons within the range of health, and in the same persons at different ages. Generally speaking, the smaller the habitual size of a pupil, the slower and more limited will be its movements.

Cataract acts as a veil to the retina, renders it less sensible to light; and the capsulo-lenticular form may, from its great opacity, so effectually cut off external impressions, as to render the pupil motionless under the ordinary light of day, but such cases are uncommon. If, after shading an eye, and then exposing it to a bright light, the pupil does not act, suspicions may justly be entertained of the unsoundness of the retina. The eye not the subject of the experiment should be closed.

An applicable rule is, to expect contraction and dilatation according to the opacity of the cataract; while it is incipient, the pupil is uninfluenced, except the cataract press on the iris and impair and prevent its movements; the certainty of any action, therefore, however slight, may be satisfactory.

I have seen a few cases of remarkable activity of the pupil, considering the opacity of the cataract. In May last, at the request of one of our Committee, I was called to see a patient in private life, aged 81, with cataract in each eye, one of which was dark, the other nearly so. I took her to the window; the day was not bright, and the pupils were so small as to induce me immediately to suspect the existence of something more than cataract; but when the eyes were examined by being alternately covered and exposed to light, there was a variation in the size of the pupils that surprised me. She was herself aware of the effect of the light, for the disadvantage accruing from it had obliged her, ever since the commencement of the cataract, to wear a large shade. I operated on the left, the darker eye, and recovery of sight followed without a single bad symptom.

When there is internal disease of the eye, the pupil is nearly always dilated—frequently to a considerable extent—and is often irregular, and the nature of the case is palpable. The opposite condition to that, namely, contraction, especially in a great degree, is rare.

I said, that in proportion to the natural size of the pupil will be its action; and when that is very small, and cataract exists, it is possible, in many cases, that it may appear fixed: the motion, if any, not being appreciable, the power of discerning light is not, in itself, enough to warrant an operation.

The application of belladonna to the conjunctiva of a healthy eye, always produces *decided* dilatation of the pupil, be its natural size what it may. It is well known, that very slight changes in the iris, that can scarcely, if at all, be detected by external examination, will diminish or destroy its effect. I have shown, that an unhealthy iris is an index of an unhealthy globe; and the idea occurred to me, whether belladonna may not sometimes be used with advantage to test the integrity of the organ. I believe that it may. Here is a case in point:—

An old man was sent to me in February of this year. The right eye had been operated on by Mr. Tyrrell, and for several years afforded good sight, notwithstanding considerable prolapsus of the iris and displacement of the pupil to the margin of the cornea, and then became dark. In the left was a lenticular cataract. He could see the shadow of his hand. The iris appeared healthy. The pupil was very small, unadherent, and, for aught I could see, motionless. The globe seemed to possess its natural firmness. Belladonna, and afterwards atropia, produced but *a very inconsiderable effect*. My prognosis was unfavourable. He pleaded hard for a chance; I yielded, and operated. The cornea united, and the eye gradually shrunk. There was throughout little local inflammation, and almost an absence of pain. The termination shows that the eye was unhealthy. I have not investigated, as far as I desire, the effect of belladonna on the pupil of morbid eyes. Dr. Mackenzie, when speaking of the action of the iris, says, "that if belladonna be applied for the purpose of dilating the pupil, in half an hour the effect will be accomplished, if the case be one of cataract; but after several hours there is generally little dilatation produced if amaurosis be present." This statement is too much generalized, and too loose to be of any worth. In individual instances, in certain kinds of amaurosis, attended with certain changes in the eyes, it will hold good; but decidedly it is not generally applicable.

That the retina should possess its natural integrity, is important; and, although it is impossible, in particular cases, to say with certainty whether only slight perception of light be owing to intense opacity of the cataract or not, and especially if the capsule be opaque, generally speaking, the degree of vision is a pretty sure index of the health of that tunic. An operation undertaken when it is feeble, must always be regarded as a doubtful proceeding; with total darkness, it would be wholly inadmissible.

A small body, such as a penknife or the finger, should be passed between the patient's eye and the light; and, if he perceive it, the retina may be considered sound, and less healthy in proportion as larger bodies are required for discernment.

Certain conditions of the globe indicative of changes in the vitreous humour so far mar, or render operations abortive, or have such an untoward tendency, that they should always be detected when present. They are softness, or "hogginess," as it is called, or the opposite state, unnatural hardness, each being attended with a dissolved state of vitreous humor, the former showing also a diminution of it.

A tremulous or paralysed iris is so frequently seen in connexion with defective nervous power and unhealthy vitreous humour, that I should be very loth to operate when it exists.

The following case came under my notice a few years ago:—A lady, aged 50, became affected with cataract in both eyes; her general medical attendant prevailed on her to allow him to operate. The right eye was committed to his care; failure fol-

lowed. He used the needle. I suspect that he depressed. Six years after, returning sight in the left eye showed that the cataract was being absorbed. When I examined her in London, a period of twelve years from the date of her fortunate discovery, both irides were very tremulous, more so than I ever saw in any individual. The right pupil was adherent in several places to irregular portions of opaque capsule, some of which were partially loose. The pupil of the left eye was perfectly clear. With proper cataract glasses, she had good sight, and read for some hours daily in books of large type. I suspect that the irides were tremulous prior to the operation on the right eye, and the absorption of the lens in the left; and, if so, here is an exception to the statement I made of the combination of a weak or imperfect retina with a tremulous iris. As we proceed we shall see that paralysis of the iris is not uncommon after a cataract has been removed by absorption or otherwise. Dr. Farre also saw the lady. The spontaneous disappearance of the cataract in the left eye is another reason for mentioning the case.

Discoloration of the sclerotica, or unusual vascularity, especially if the vessels are large and vitreous, shrinking of the eyeball, or disproportionate size of the cornea, may all of them be viewed as unfavourable prognostics to operating, and any one of them may be sufficient to militate against it.

Without proceeding further into detail, it may be stated as a rule, that any deviation whatever in any of the textures composing the globe, except the lens, from what would be considered a state of health, is more or less obnoxious to surgical measures. Inflammatory affections of the lids, or mechanical changes in them, that may in any way produce irritation of the cornea, or interfere with their proper motions over the globe, come under the same category.

When cataract has been consequent on inflammation of the internal parts of the eye, the history of the case will point out its nature.

This short sketch of complications must be followed by recounting briefly the broad distinctions between cataract and amaurosis, and cataract and glaucoma. If I am to define amaurosis as imperfection or loss of vision depending on lesion of the ocular nervous apparatus, I am not aware of any objective symptoms besides the motions of the pupil and the directions of the eyeballs that can be depended on, and these furnish exceptions.

The paleness or light yellowness observed just behind the pupil, and considered as a symptom, is no such thing, but only the effect produced by the coloration of the lens, of which I spoke in the last lecture, and which would be seen with or without amaurosis. Young amaurotic persons never exhibit this appearance. In rare exceptions, the pupils act as in health when total blindness exists; (I shall not open the physiological question that this involves;) but the rule is, that their motions are greatly impaired, or quite lost, directly that vision is affected, and irregularity with dilatation is common.

Amaurotic eyes have a tendency to lose their parallelism, they usually diverge; are indefinite in motion and appear not to be under the control of volition.

In uncomplicated cataract, they are parallel, and their motions are regular, and in unison with the general movements of the body.

Now let us contrast the subjective symptoms of the two. Cataract forms slowly, and vision declines in proportion, and objects are enveloped in a mist. A dull or subdued light is preferred by the patient, because with the expanded or dilated pupil he sees better. In amaurosis, the sight may be gradually lost, but as frequently it departs quickly, or it may be suddenly; and muscæ, flashes, coruscations, pains of the orbits, headache, or other cerebral disturbance accompany the failing or lost vision, and a bright or strong light is generally sought for. The patient may see better one day, and worse another, and the extreme degrees may be very great. Luminous bodies appear distorted, or broken up into rays or stars. It can be only in the incipient stages of either of these affections, that a mistake is likely to be made, or a doubt raised.

Muscæ volitantes are frequently seen in connexion with cataract. They form, *per se*, no objection to an operation. Not unfrequently, after a cataract has been removed, the patient discovers, for the first time, that he is the subject of them. Whenever the formation of a cataract is accompanied with uneasiness or pain in the eye, or its surrounding parts, suspicions should be entertained of other disease, and it must be borne in mind that it is common for cataract to co-exist with amaurosis or glaucoma.

Glaucoma, not uncommon in elderly persons, but I believe never seen in early life, signifies a green state of the pupil, with other changes in the eye. At first it is light green, but becomes deeper as it advances. Hardness of the globe is a common attendant. The following paragraph from Dr. Mackenzie's work expresses all that I need tell you. "Limited and sluggish motion of the pupil, "with other amaurotic symptoms, always attends glaucoma. Ultimately the pupil is dilated, and the retina insensible to light. The loss of sight, however, is generally very gradual, and is sometimes attended, at least for a time, by diminution in the size of the pupil."

There is considerable difference of opinion about the nature of glaucoma. Some speak of it synonymously with acute retinitis, others as chronic arthritic inflammation of the internal tunics. Dr. Mackenzie considers that he has proved the lens to be the original and only seat of the green appearance his arguments are ingenious, and scientific, and plausible, but decidedly not conclusive. Of this you may be certain, that opacity of the lens, combined with any tinge of green, is always attended with such other changes in the eye as to prohibit operation.

The catoptrical, or candle-test, as it is called, of Sanson, I am not in the habit of employing. I have not found it of any assistance in the very commencement of cataract, when there has been a question of opacity; and in a more advanced stage I do not require it. It is said to be satisfactory in pointing out the difference between cataract and glaucoma. Dr. Mackenzie discusses the subject at large in his treatise, to which I refer you.

Operations, implicating the globe of the eye, demand for their success a particular state of health —that in which an injury can be inflicted on a delicate and sensitive organ with the greatest impunity. It is a mistake to depress the patient to a very low degree; I believe that would be as bad as the opposite or plethoric state, which should be always avoided. A certain amount of healthy action is required to resist and to repair. In the operation of extraction, when the cornea is cut, unless union be quickly effected, by first intention, or, more correctly, by adhesion, the result, always more or less imperfect, may be destruction of the organ.

An accustomed eye soon detects a plethoric person, or one that is popularly said to be in "rude health." Such an one should, by regulation of diet, exercise, and, if necessary, purgation, be reduced till those symptoms disappear, and the circulation is reduced rather below par. On the other hand, a debilitated constitution requires to be improved and brought to the proper standard. It is impossible to define by word what that exactly is, but every practical man will know what is meant. It is important that the digestive organs be in health and the tongue clean.

The presence of specific inflammation, as the strumous, gouty, syphilitic, or rheumatic, in other parts of the body would contra-indicate operation; nor would it be prudent to operate on an eye that had been recently inflamed. A very long interval should be allowed to pass after the last trace of such disturbance.

Organic disease of the chest, provided cough be not produced, or perhaps of some of the abdominal viscera, may offer no impediments. While a pupil attending the practice of Mr. Terryll, he operated by extraction on one eye of a female aged 57, who had valvular disease of the heart, ascites and anasarca. The operation was quite successful, and she returned home on the eleventh day after its performance. Her heart had been diseased for five years.

Advanced age is not an objection to operation, if nothing else forbid. The most complete result has followed extraction after ninety. The late Mr. Scott operated with success on a female between ninety and a hundred. I have frequently operated after the eightieth year. During this summer four times—three of the patients were in the Hospital, the one in private was in his eighty-sixth year.

The late Dr. Lynch requested me to see a workhouse patient with cataract, who had been bed-ridden for several years, from loss of motion in his legs. He must have been of a very great age, judging from the physical changes his frame had undergone. At the old fellow's request I operated on one eye: he was enabled to read.

It is a point fully settled, that no treatment is available for cataract but the operative,—that hard cataract ought either to be extracted, by which it is at once removed from the eye, or displaced; that is, pushed away from the pupil to the lower part of the vitreous humour; while the soft cataract, being allowed to remain in its position, is lacerated or divided, that it may be absorbed.

The following important questions are often put to the ophthalmic surgeon:

Should one eye be operated on while the other is yet sound?—The only reasons I know of for the affirmative, are, that a personal deformity is removed, and that any amount of sight that can be made available for viewing bodies situated laterally, and out of the reach of both eyes at the same time, is advantageous. While opposed to this is the probability of confusion of vision ensuing when the same bodies are viewed with two eyes of a different focal range. I cannot tell why, in some instances, this confusion exists, while in others it is absent. So very uncertain is the period at which the second eye becomes affected, that no one can venture to offer an opinion. My own experience furnishes examples of very distant intervals. The last I recorded was sixteen years, and in some cases it may never be involved. Therefore we have no right to operate in anticipation of such an event. But as soon as the other shows implication of cataract, or of failing sight from any other cause, there is no reason for delay if the patient wishes for an operation on that most affected.

Should both eyes be operated on at once?—If extraction, decidedly not. Let one recover before the other is touched. When I first commenced practice, I frequently operated on both at the same time; but I am now convinced that it is imprudent. For depression, or solution, it matters not, and may be left to the choice of the patient or the surgeon.

What time of the year is best suited for operating?—I have operated at all periods, with, as far as I could judge, equal success; but I am very careful if I extract in cold weather, to have the sleeping-room of the patient, the one to which he is confined for the first few days, kept at a uniform temperature, and not lower than 60 degrees of Fahrenheit. The prevalence of easterly winds, or of damp or rainy weather at any time, would be objectionable.

In December of last year, when the weather was mild, I arranged to extract a cataract from a female, aged 71; the 21st, the time appointed. When the day arrived the frost had set in, but I would not postpone the operation. With the aid of a good nurse all my regulations were carried out, and on the 26th, two days after the frost broke up, the eye was opened, and the patient could see. This case would be of little value, were it not one of many others. Yet I consider that the summer months are preferable for extraction, because less care and attention are required, and the patient is better able to expose himself, and to take air and exercise, and recover his lost strength and spirits, the consequence of anxiety, and confinement, and preparation. Mr. Tyrrell thought it better, if possible, not to extract, except between March and October.

Notwithstanding all the difficulties and dangers that attend extraction, it possesses its advantages over the much easier operation of displacement, and practised by the best and most successful oculists.

I almost invariably extract hard cataracts, no because I have tested the merits of the two modes of operating, but guided by the weight of authorit and the example of my teachers, and, reasoning or their principles, from the earliest period of m practice I have adopted it.

This is the most fitting time to introduce the subject of chloroform. Any remarks on its use, except in the operation for extraction, and I ma add artificial pupil, when the cornea requires to be opened to any great extent, are not needed. Under those states employment is decidedly very dangerous, except certain precautions be used, becaus vomiting would in all probability cause destructio of the eye by the loss of the vitreous humour.

I have used it on five occasions, in each instanc by the particular request of the patient. The necessary precautions are, that the stomach be empty, and that the chloroform be given very slowly, and no more used than is just enough to produce insensibility. Four of the operations were hospital ones. All of them did well, slight nausea ensued, but neither retching nor vomiting. Consciousness returned quickly.

The fifth instance was a private patient, introduced to me by Mr. Harding, of Percy-street, who assisted me. The right eye had been lost under other hands a year or two before. You may suppose I was emphatic enough about not eating for some hours before the choloroform was to be inhaled. While arranging matters prior to operating, I asked her daughter, who was in attendance, if any food had been taken since the morning, it being then after one o'clock; the answer was, No.

The cataract was extracted, but no sooner had I finished, than copious vomiting commenced, and at each effort a gush of vitreous humour streamed down the cheek. Of course the eye was lost. The truth, now told, came at the wrong end. Half an hour before I was expected, the foolish woman "had taken a little luncheon with some porter, to give her strength."

It must be obvious that an empty stomach, and a very small quantity of chloroform, are security against vomiting at the time; but at any period within the first twenty-four or thirty hours, vomiting with retching may come on when the slightest portion of any liquid or solid enters the stomach; and the retching that may arise without partaking of anything might be quite as bad in results as the most copious vomiting.

In five cases of artificial pupil, in which chloroform was employed, I have not had to regret its use, although sickness ensued in two, and vomiting in one. I may say, that I have ceased to employ it.

Generally speaking, those who are the subjects of extraction are usually of an age to forbid the exhibition of any stupifying agent.

In surgical operations of a general character, no one has a higher opinion of chloroform than myself, provided it be employed judiciously, and administered by an experienced person.

ORIGINAL CONTRIBUTIONS.

ON THE

INVESTING FIBROUS MEMBRANE; OR FASCIA OF THE HEART.

By ROBERT LEE, M.D., F.R.S.,
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It was an opinion entertained by Haller and some other distinguished anatomists, towards the close of the last century, that the muscular substance of the heart has no nerves, and that its contractions do not depend upon nervous influence. In 1792, J. B. J. Behrends, a pupil of Professor Sœmmering, published a Memoir, which was entitled "Dissertatio qua demonstratur Cor nervis Carere," in which it is affirmed, in the most positive and unqualified terms, that not a single nervous filament is distributed to the muscular structure of the heart. "Ac primo quidem nervorum cordis examini scrupulosius intendens," he says, "tum observando tum analogice concludendo, didici nullos omnino nervos ne surculum quidem in ipsum cordis carnem dispergi." An engraving, in which the trunk and a few of the principal branches of the left coronary artery are represented, as supplied with nerves from the par vagum and great sympathetic is appended to the memoir. In 1794 this striking error was exposed by Scarpa, who represented in his splendid engravings branches of nerves passing from the par vagum and great sympathetic to the heart, and accompanying the coronary arteries to its apex. In these figures only a few small filaments of nerves are represented on the human heart, which proceed to the muscular structure, and which do not accompany the coronary arteries, but in one of the engravings of the heart of the ox, large branches are represented, passing obliquely across the blood-vessels on the muscular fibres of the heart. On one of these branches accompanying the left coronary artery, there is a distinct ganglion, or ganglionic enlargement. In the plates of Mr. Swan, published in 1834, only a few small branches of nerves are represented, which accompany the trunks of the coronary arteries. Monsieur Chaissaignac, the translator into French of Mr. Swan's Work on "The Nerves of the Human Body," asserted in 1838 that the existence of nerves in the heart, independent of the blood-vessels, had never been demonstrated:—"L' examen anatomique n'a constate jus'qua present dans le cœur; que des nerfs arteriels; l'existence de filets nerveux independantes des vaisseaux est encore a demontrer." P. 23.

In 1845 several anatomists in this country asserted that the uterus had no ganglia, and only a few small filaments of nerves, like sewing threads, which they affirmed do not enlarge in the slightest degree during pregnancy; and in support of this opinion, the heart was adduced as furnishing a striking example of a powerful muscular organ acting without interruption from the beginning to the end of life, though very sparingly, or not at all, supplied with nerves. None of these anatomists themselves had ever dissected the nerves of the heart; and the plates of Scarpa and of Swan furnished the only evidence they could adduce in support of their opinion that the muscular substance of the heart, like that of the uterus, is almost entirely destitute of nerves.

In September, 1846, being dissatisfied with this evidence, I resolved to appeal to nature, and proceeded to dissect the nerves of the heart immersed alcohol, as I had done those of the uterus, with magnifying powers of six and twelve diameters. The investigation was carried on during two years, and from the examination which I have made of the nerves of the healthy and malformed fœtal heart; of the hearts of birds; of the heart of the child at the ages of six and nine years; of the heart of the adult in the sound state; of the human heart slightly and greatly hypertrophied, and of the heart of the young and adult ox, the following conclusions may be deduced:—1st. That the blood-vessels and the muscular structure of the auricles and ventricles of the heart are endowed with numerous ganglia and plexuses of nerves, which have not hitherto been described or represented in the works of anatomists. 2ndly. That the nervous structures of the heart, which are distributed over its surface to the apex, and throughout its walls to the lining membrane and columnæ carneæ, enlarge with the natural growth of the heart before birth, during childhood and youth, until the heart has attained its full size in the adult. 3rdly. That the ganglia and nerves of the heart enlarge like those of the gravid uterus when the walls of the ventricles are affected with hypertrophy. 4thly. That the ganglia and nerves which supply the left auricle and ventricle in the natural state, are more than double the size of the ganglia and nerves distributed to the right side of the heart.

This anatomical demonstration of the ganglia and nerves of the muscular substance of the heart completely overthrows the last remaining argument employed by those physiologists who still defend the doctrine of Haller, that the irritability and contractibility of muscular fibre is independent of nervous influence. This demonstration further clearly indicates the source of the actions of the heart as an entire organ, and how its detached parts can continue to contract after its total separation from the body. It likewise furnishes a satisfactory explanation of many phenomena observed in the progress and treatment of organic diseases of the heart.

In prosecuting this investigation into the nervous system of the heart, I found that the great difficulty of dissecting and displaying the cardiac ganglia and nerves, did not arise so much from their extreme softness, from their close and intimate connexion with the blood-vessels, or from the quantity of adipose matter in which they were imbedded, as from the presence of a dense fibrous membrane or fascia, which was interposed between the serous membrane and the muscular coat, of whose existence as a distinct tissue of the heart I had no suspicion when these researches were commenced. In the most recent systematic writers on anatomy, the heart was represented as consisting of muscular and tendinous structures, blood-vessels, nerves, and absorbents, enclosed between two serous membranes.

The serous layer of the pericardium which is reflected over the surface of the auricles and ventricles of the heart, is an extremely thin, smooth, and transparent membrane, which is torn by the application of the slightest violence after it has been separated from the fibrous membrane or fascia, which is situated between it and the muscular substance of the heart. If an incision be made through both these membranes over the left ventricle, it is not difficult, with a pair of fine forceps and a needle, to destroy the cellular tissue by which they are united, and to demonstrate the existence of a serous layer and fibrous membrane over the whole surface of both auricles and ventricles. On examining the fibrous membrane when thus exposed, it is found to be possessed of great strength and firmness, glistening, semi-transparent, and resembling, in all respects, the aponeurotic expansions, or fasciæ covering muscular organs in other parts of the body. It is much stronger over the ventricles than the auricles, and it adheres so firmly where it is in immediate contact with the muscular substance of the auricles and ventricles, that its separation often cannot be effected without tearing up some of the muscular fibres to which it is attached. From the inner surface of this fascia, which I have named the cardiac fascia, innumerable strong fibres pass to the blood-vessels, nerves, and muscular fasciculi and adipose matter. These strong, slender fibres, connected with or proceeding from the inner surface of the fascia, accompany and surround all the blood-vessels and nerves, and they are interlaced together so as to form a peculiar stroma, if it may be so termed, of considerable thickness, between the fascia and all the various structures beneath, which it invests and binds together in the strongest possible manner. These fibres form a complete sheath around all the arteries, veins, and nerves on the surface of the heart, and accompany them as they dip down between the muscular fasciculi to which their branches are distributed throughout the whole walls of the heart from the surface to the lining membrane.

From the preparations in the Museum of St. George's Hospital and in my possession, it is seen that the cardiac fascia exists in the hearts of the larger quadrupeds, in the human heart, in the healthy and hypertrophied states, and in the heart of the child at the ages of six and nine years. It can likewise be demonstrated in the hearts of birds, and it is this fascia which chiefly gives to the fœtal heart its re-

markable firmness when all the other muscular parts of the body are, as Mr. Hunter observed, in a soft and almost gelatinous state. "The muscle which has the greatest resistance in an animal body to overcome," he observes, "is the heart especially in quadrupeds, and this is, perhaps, the firmest in the body, being even firmer than those which have the above-mentioned resistance to overcome." "From the above account, it must appear," adds Mr. Hunter, "that muscles, in proportion as they are firm in texture, will be strong in action; it is at least demonstrable in the muscles of the same animal, whose texture is different, and similar muscles in the male and female of the same species; and we may reasonably suppose that it will hold good in different species; and, therefore, when we find the muscles very firm in any one species, we may conclude that this species is stronger than any other species in which the muscles are tender and soft." "The heart of all partakes strongly of the two causes of firmness, and is, perhaps, the firmest muscle in the body."

The cardiac fascia is obviously one of the principal causes of the firmness and strength of the central organ of the circulation of the blood, as it binds together into one mass, and gives support to the muscular fibres like the fasciæ investing other muscles. The cardiac fascia is to the heart, I believe, what the external fibrous coat is to an artery; and it must have nearly the same effect in preventing dilatation and rupture of the ventricles during violent exertion. The thin feeble serous covering of the heart can possess little influence, and add nothing to the strength of the parietes, and probably, but for the fascia now described, the heart would often yield, in all directions, especially at the apex. In a physiological of view, it, therefore, has appeared to me, that this fascia of the heart is one of its most important structures.

In a pathological point of view, the cardiac fascia is, perhaps, not less worthy of notice. Muscular structure, it is well known, is not liable to attacks either of common or specific inflammation. It is impossible to avoid suspecting, that rheumatic inflammation of the heart has for its principal seat, this dense fibrous membrane lying between the serous and muscular coats of the heart, and that attacks of rheumatism of the heart do not commence primarily in the muscular structure. The tunica sclerotica of the eye sometimes becomes inflamed, softens and yields, and from these changes, it is known, that sclerotic staphyloma and other diseases, are the results. Whether, in dilatation of the heart, a similar morbid change is not first set up in the fascia; and what influence this fibrous membrane has in modifying all the diseases of the heart, future observations must determine.

The appearances of the cardiac fascia in the human heart and in the heart of the ox have been beautifully and most faithfully represented in the engravings which illustrate my paper "On the Ganglia and Nerves of the Heart," very recently published in the "Philosophical Transactions," (Part i. 1849,) a copy of which paper accompanies this communication.

4, Saville-row, August 3, 1849.

NEW VIEWS ON THE TREATMENT OF UTERINE DISEASES, AND OF THEIR ASSOCIATED NERVOUS AFFECTIONS.

By G. CALVERT HOLLAND, M.D.

Chapter I.
THE NATURE AND OBJECT OF THE PROPOSED INQUIRY.

I. Many years since my attention was directed to one branch of this subject by a distinguished friend and a zealous cultivator of pathology; (a) and, though I did not exactly coincide in the conclusions which he deduced from his researches, they had, nevertheless, this beneficial effect,—they imparted to a difficult and an embarrassing class of diseases a far higher interest than I had hitherto felt in the investigation and treatment of them.

(a) The late Dr. Mackintosh, Edinburgh.

Continued observations and gradually accumulated experience, as well as a more intimate acquaintance with the labours of others, in this particular department, convinced me, that, though the field had been occupied by master-minds, and many important advances had been made, much, however, remained to be accomplished. This is not expressed in spirit of presumption. Every one who gives to the world the results of his scientific or practical inquiries, flatters himself that on some points he is wiser than his predecessors. This is almost necessarily implied by the act of publication. I the superiority is not based on new discoveries, it may be traced to an imagined juster appreciation of the value of existing truths, and a finer sense of their application to the explanation of numerous phenomena. The presumption does not consist in the assertion, but in failing to establish the grounds on which it rests. Whether the uterus be studied in its impregnated or unimpregnated condition, it is clearly an organ peculiarly fraught with vital properties, and hence is susceptible of a variety of diseases the influence of which is not confined to its structure, but radiates in all directions modifying the functions of the entire animal system. At puberty commences the wide range of its sympathies, and the life to which it is awakened impresses upon every living fibre susceptibilities and powers not previously possessed.

From the moment the uterus enters upon a new sphere of duties, whether these be fully or only partially called into play, to their natural cessation from the progress of years, the normal, but especially the morbid effects which mark the periodicity of vital action or the interruptions to its manifestation, present unquestionably the most comprehensive class of phenomena emanating from, or associated with, a single organ, that the animal economy offers to our consideration. The difficulties connected with their investigation are referrible to the following circumstances:—

1. The uterus and its appendages lie out of the sphere of ordinary observation; and when examined with all the aids furnished by science, the knowledge acquired of their deviations from health is often only a remote approximation to the truth.

2. The structural changes detected in the uterus may be the cause of the constitutional symptoms, or, indeed, the effects of causes which are not seized or appreciated in all their importance, and, consequently, the remedies employed not being the suggestion of just and enlarged views concerning the nature of the existing derangements, will necessarily be inefficient or limited in the amount of good they confer.

3. The wide sympathetic relations between the uterus and the rest of the animal economy, from the anomalous and perplexing phenomena to which they give rise, tend, in a peculiar degree, to embarrass the inquirer in his efforts to define or trace the various disorders which originate in their disturbance. Our ignorance of the links composing the extensive chain of causation, as exemplified in uterine influence, is one great source of the imperfection of our knowledge on this deeply-interesting branch of research.

4. In the enumeration of the difficulties connected with the investigation and treatment of uterine affections, there is one which will readily suggest itself to the mind,—viz., the natural delicacy of the female. The unwillingness to make known the irregularities and disorders of the generative system, in their incipient stages when they would often be easy of correction, accounts for their aggravation and complexity, when they fall under notice, and proportionately obscures the view of the Practitioner.

II. We shall endeavour to show in the subsequent analysis of the rise, progress and nature of uterine diseases, that in none of the excellent works which treat of them, do we discover any clear or comprehensive principles elucidating, with anything like precision, the physiological conditions out of which they spring, on a knowledge of which alone all sound remedial measures must be based. This defect is not attributable to the want of talent in the writers, nor of abundant opportunities for accurate observation; but is to be referred to a limited acquaintance with the laws regulating the action of the vital powers generally. The attention hitherto has been too exclusively confined to the uterus, and the remedies employed have likewise been too exclusively applied to its structure. The pathologist has excluded from his consideration the light which physiology richly reflects upon his inquiries. In his study of the organic and functional changes of the organ, he has failed to perceive in their comprehensive and practical importance, the nervous and sanguineous relations which it maintains with the entire animal system—relations which not only supply the powers essential to the exercise of its functions, but through which it may be influenced to an extraordinary degree in the diversity of its disorders. The efficiency of these channels, carrying life and energy to all parts of the body, and of the mode in which they may be made subservient to the cure or alleviation of uterine affections, independently of all direct applications, either instrumental or medicinal to the organ itself, are comparatively little understood. It is ground which is largely unbroken.

The pathologist is familiar with the sources whence the uterus derives its nervous energy and blood; but has, indeed, much to acquire in regard to the application of a knowledge of these sources and of their relations to the animal system.

III. In the prosecution of this inquiry it is our intention to be thoroughly practical, by which is implied the suggestion of measures having an immediate reference to the treatment of disease. But let us endeavour to give a philosophical definition of the term. In its ordinary acceptation it too frequently means the employment of remedies on the authority of others, or on personal experience, but without being based on a just or enlarged view of their properties, or of the mode in which they affect the vital powers. The almost universal demand of the Medical Profession is for something practical,—some specific or agent of marvellous efficacy in the correction of morbid phenomena, unaccompanied with the imperative necessity of elaborately investigating the conditions of the animal economy, or of particular organs, on the due appreciation of which the whole of their beneficial influence will depend. Hence the unsettled, the ever-varying, and the widely clashing doctrines which characterise the healing art,—the vacillating routine of daily practice. With what avidity a new remedy is adopted on its announcement, or the novel application of an agent already known! This indicates an unsound state of the Profession. It displays a confidence in means irrespective of a commensurate anxiety to ascertain the laws and action of the vital powers,—a knowledge of which would materially lessen the prevailing credulous tendency of the mind. The meaning which we attach to the term practical, comprehends a knowledge of the vital conditions and of their modifications under particular circumstances; and, consequently, the remedies which will subsequently be brought under notice, will be the suggestion of physiological considerations, with the additional advantage of having been fully tested by extensive experience. The exposition

of the laws of vital action as exhibited by the uterine functions, is the first essential step towards a just conception of the origin and nature of their deviations from health; and it is the only method that can possibly lead to the establishment of efficient and philosophical views of practice. Every other course of procedure is empiricism, which, though not destitute of beneficial results, is nevertheless uncertain in its operations and exceedingly limited in the curative influence it exerts, compared with the employment of remedies founded on a knowledge of the physiological conditions and relations of the organs temporarily diseased.

IV. There is one striking advantage connected with the plan we propose to pursue that distinguishes none other: it will not only show the grounds on which the treatment should be founded, in reference to one particular class of morbid phenomena; but it will present such an insight into the functions of the animal economy generally, that the light elicited will have an application more or less direct to a far wider sphere of disordered vital actions. This is characteristic of truth. All principles possessing this property, whether they belong to inert or organic matter, to mind or life, are inexhaustible in the resources which they place within the power of man to control or modify the operations of nature. The labour of philosophy is less to discover new principles than to extend and illustrate those already known.

V. If we take an enlarged survey of the opinions entertained concerning the nature of uterine diseases and their treatment, we find the greatest possible discrepancy. By one writer, and one of the latest authorities on the subject, the symptoms are almost altogether to be traced to inflammation and its consequences, and the measures employed are almost exclusively local applications. By another, many of these symptoms are referred to functional derangement of the generative system dependent upon, or closely associated with the general state of the constitution, and the treatment enforced is in harmony with these views. A third perceives, as a cause of sterility, an obstruction of the os uteri and of the Fallopian tubes, and the necessity of its removal by mechanical means.

Whatever doctrine an individual lays down, and maintains with determined tenacity, naturally begets a tendency in the mind to see and study phenomena through the medium only which it presents, and it has a marvellous influence in moulding them agreeably to preconceived ideas. The success which is consequent on the treatment suggested, is the key-stone to the superstructure, and nothing further is imagined to be required to establish the soundness of the foundation. Unfortunately, recorded success seldom comes before us in such a form as to inspire implicit confidence. It rarely possesses the conditions essential to a correct judgment of its claims to attention. The state of the constitution, the properties of the remedies, and the mode in which they affect the powers of life, are never described with a sufficient degree of precision and accuracy to enable others to appreciate justly the value of the measures employed.

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ANTEVERSION OF THE UTERUS AS A CAUSE OF STERILITY.

By EDWARD RIGBY, M.D., &c.; Examiner in Midwifery in the University of London; and Lecturer on Midwifery at St. Bartholomew's Hospital, &c.

(Continued from page 583, Vol. XIX.)

Before quitting the subject of anteversion, I am anxious to direct the attention of your readers to an effect of this displacement, which has excited little, if any notice. But, in these days, when the speculum and caustic promise to be the diagnosis and panacea of all female diseases, deserve to be particularly mentioned. Cases of chronic inflammation of the cervix, with a swollen globular state of the anterior lip of the os uteri, are not unfrequently met with. The parts are hard, tense, swollen, and painful, and, on examination with the speculum, the anterior lip is much congested; its surface occasionally granular, or even abraded and ulcerated; the system is suffering generally from uterine irritation; there is the ordinary collection of local symptoms indicating inflammation of the os and cervix uteri, and the menstrual periods are attended with considerable suffering and derangement. By careful attention to the general health, and by local treatment, temporary relief is obtained, but nothing approach to a permanent cure—leeches, scarifying, lunar caustic, and even potassa fusa may be used, from time to time, and the changes diligently rung upon every species of injection; and thus, month after month passes; the local affection is, where it was when we first took it in hand, and the general health of the patient evidently losing ground. By a careful examination both with the sound as well as with the finger, we detect the fundus lying forward or, in other words, the presence of anteversion; we rectify this displacement, and, as in retroversion the swelling of the os instantly subsides. We keep the patient as much as possible in the supine posture, rectify the position of the uterus occasionally by the sound, or apply a supporter to retain it in its right position; the local symptoms cease, and the general health and strength improve by the removal of the uterine irritation, which had existed in consequence of the displacement. My attention was called to this fact by two or three cases among the out-patients at the Red-lion-square Hospital, where this state of the cervix, and especially of the anterior lip existed, and where, in spite of careful attention to general health and weekly examination of the part with the speculum no progress was made. The patient was still in suffering, the tongue showed the presence of irritation, the chylo-poietic functions always deranged, and the local affection defying all treatment beyond a very temporary degree of relief. I confess, that I had hitherto contented myself with merely inspecting the part when the house-surgeon had applied the speculum, thinking that this swollen and inflamed state of the anterior lip of the os uteri was the "*fons et origo mali.*" Becoming, however, dissatisfied with my want of success in relieving these cases, I determined to make a thorough and careful examination. The os uteri was invariably turned much backward; the uterus was inclined distinctly forwards, so that the body could be felt inclining towards the bladder; the uterine sound took the same direction. The patient had, among other symptoms, complained of pain behind the symphisis pubis, difficulty in retaining any quantity of water in the bladder, and frequently pain after passing it. On raising the uterus into its natural position, the globular swelling of the anterior lip instantly disappeared; it had become soft, thin, and lip-like; it was no longer tense, or painful upon pressure; in some cases, the uterus was carried upon the sound into a slightly retroverted position, and held there for a few minutes, with considerable relief to many of the old symptoms. In another case, Dr. Simpson's uterine supporter was required, and acted so far with success, that, although the anteversion was not cured, it did not return to the same extent as before, and she continued free from the symptoms of local congestion which had been so troublesome.

RETROVERSION.

Perhaps one of the greatest triumphs in diagnosis which have been achieved by the use of Professor Simpson's uterine sound, is the investigation of that species of uterine displacement called Retroversion, where the fundus is turned backwards, projecting into the recto-vaginal pouch; the os uteri being (though not always) turned forwards. In the *Medical Times*, of November 8th and 29th, 1845, and January 10, of 1846, I have described the characteristics of this displacement; I now return to it for the purpose of considering how far it can be a cause of sterility, and what are the effects which it is capable of producing. From the cases which have come under my observation, I should say there are few causes of sterility in an otherwise healthy woman of such frequent occurrence as retroversion, nor does it only occur where conception has never yet taken place, but even in patients who have had children.

In those patients where pregnancy has never taken place, and where, in all probability, it has existed for many years, it is chiefly the result of habitual constipation, the uterus not being able to bear the continued pressure of a heavily-loaded intestinal canal, aggravated, not only by occasional efforts of the abdominal muscles, but also not unfrequently by tight-lacing. In addition to these, which are merely mechanical causes, there can be no doubt, that whatever tends to debilitate the patient, to break down her tone and strength, and render the soft parts relaxed and flabby, strongly disposes her to this displacement; the uterus itself is soft and flabby, the vagina relaxed, and, therefore, a large amount of that support which maintains the uterus in its natural position, either entirely absent, or at least very imperfect. Thus we see it in feeble, dyspeptic young women, drained and blanched by leucorrhœa; but most of all do we see this cause of retroversion existing in women who have had an abortion; the uterus is now not only larger and heavier, but also much softer and more relaxed than usual, and, therefore, but little fitted to resist any mechanical force which may be applied to its fundus. This atonic state of the uterus and soft parts will modify the displacement considerably; if the uterus be chiefly affected, we shall probably have it bent upon itself (*retroflection*); the os uteri looking downwards, and but little, if at all, displaced; the fundus to be felt through the posterior wall of the vagina like a mass of scybala in the rectum. On the other hand, if the vagina and surrounding soft parts be chiefly relaxed, the displacement is strictly one of *retroversion;* the os uteri looks forward, and is much nearer to the symphisis pubis than natural; the uterus is not doubled upon itself as in the other case, but lies across the pelvis; the fundus pressing against the rectum, so that nearly the whole posterior surface of the uterus, from the os to the fundus, may be traced by the finger as it moves from before backwards.

The consideration of these different circumstances is useful, not only as enabling us to form a more correct prognosis, but also to modify our treatment according to the particular features of the individual case. Thus in cases depending entirely on loaded bowels, and where the displacement has probably not been of long duration, mild purgatives, which clear out the bowels effectually, increase their tone, and thereby diminish their calibre, and the occasional reposition of the uterus by means of the sound will occasionally be sufficient. I own, however, that these simple and fortunate cases are rather the exception than the rule. Where the displacement is of long standing, the assistance of Professor Simpson's uterine supporter will be required to preserve the uterus artificially in its natural position until by laxatives and appropriate tonics it is capable of maintaining that position without support. If it be a case of retroversion depending in a great measure on the relaxed atonic state of the vagina, &c.; the use of local astringents, in addition to the general treatment just mentioned, will usually be of much service.

In some cases, however, the supporter cannot be borne, its presence produces so much suffering, irritation, leucorrhœa, or even menorrhagia, as to forbid its use; or where the ovary has become so swollen and inflamed, in consequence of the displacement, as to render it impossible to return the uterus by the sound to its natural position, still less to introduce the supporter; in these cases the prone position becomes very valuable, and seldom fails, when maintained long enough, to remove the displacement, and reduce the swollen condition of the uterus and ovary which occasionally attends it.

Having taken this cursory view of the different conditions which require us to modify our treatment, I will endeavour to illustrate them by a few cases.

Mrs. A., aged 35; married a year and a half; never pregnant; brunette; tall.

July 6, 1848.—Complains of severe pain across the nates, and also of the left groin; the latter is much increased for ten days before the catamenial period. The catamenia last eight days; the discharge is scanty and brown; leucorrhœa in the intervals; lassitude; aching limbs; motions dark and offensive; tongue furrowed along the centre, and

covered with a thick bilious fur, through which project numerous red papillæ. She has suffered much from irritation of the os externum, and some time ago had severe hæmorrhoids; has long been subject to rheumatism, sciatica, and much gastro-intestinal derangement, with occasional bilious fever.

Examination per Vaginam.—Os uteri soft and pulpy; cervix hard, especially on the left side; there is also pain in the direction of the left ovary; the os uteri is much congested, with a purple and patchy appearance.

℞ Acidi hydrochlor. dil., acidi nitrici dil. aa. ʒi.; extracti taraxaci, ʒj., infus. aurantii co. ad ℥vjjj. M. ft. mistura cujus sumat; coch. magn. ij. ter die; liq. plumbi diacet. ex decoct. papaveris; hirudines vj. ori uteri.

August 19th.—Leeches have been applied three times since last report; the blood was dark and thick, "almost like treacle;" but little blood came the first time; they bleed freely the second time the last application gave decided relief. The catamenia have appeared twice since last report; the pain, which was of a sharp darting character, came on only three or four days previously; the discharge was scanty, but she thinks its colour improved. Tongue with a deep longitudinal furrow, thickly furred, and with red papillæ at the tip. She thinks that the leucorrhœa is rather less. She still has pain about the sacrum, and the motions are flattened.

Examination per Vaginam.—Os uteri soft and open; rather forwards; fundus inclined backwards; the uterine sound passes 2½ inches in that direction.

℞ Pil. hydrarg. extr. hyosc. aa. gr. v. h. s. semel in septim.

℞ Ferri sulphatis gr. ij.; acidi sulph. dil. ♏ x., magnesiæ sulph. ʒi.; syrupi rhœados ʒss.; aquæ menth. pip. ℥i. M. ft. haust. bis die sumendus. Rep. lotio.

November 11.—Feels better; more appetite; tongue better; motions are flattened, and passed with pain; irritation of os externum less; the leucorrhœa is not better; she has menstruated twice since last report; the discharge came at the night-time, and was of a much better colour; has constant pain in both hips, especially the left. For the last week she has felt freer from pain of back and left groin than she has done for a long time.

Examination per Vaginam.—The os uteri is in its natural position, the cervix softer and less painful.

With the speculum, the os is red and granular at its inner edge; a long rope of whitish mucus was drawn away, and argenti nitras freely applied.

Rep. Pil. mist. et lotio.

℞ Plumbi diacet. extr. Conii. aa. gr. x.; pulv. acaciæ, ʒss. M. ft. suppositorium, ori uteri alternis noctibus applicandum.

Two of the most characteristic symptoms of retroversion, viz., the pain across the back of the pelvis, and the pain of left groin, were prominent features in Mrs. A.'s case; the latter symptom, although so frequently attendant upon retroversion, is not a necessary concomitant; it is one which indicates a result of retroversion, rather than the existence of retroversion itself; it points out the presence of ovarian irritation or inflammation which so frequently attends their displacement, and which, in so large a majority of cases is confined to the left side. When I first noticed the connexion between these two conditions, I believe that the left ovary was affected nineteen times to once of the right, but further observation has since induced me to rate the difference as still greater. I presume that the position of the sigmoid flexure of the colon on the left side may have something to do with it, especially when we bear in mind the liability to fecal accumulation at that part of the intestinal canal.

The pain and irritation of the left ovary, so commonly observed in cases of retroversion, is probably produced by the broad ligament in which the ovary is situated being put on the stretch, and the returning circulation thereby hindered; hence we see that this increased as the catamenial period gradually approached, so that for ten days before each time the pain was considerably aggravated. The uterus in this case relieved itself slowly and with difficulty, but in some instances the ovarian irritation is attended with much dismenorrhœal suffering and exudations, and in others by profuse menorrhagia, of which I will give cases. The constant leucorrhœa which existed during the intervals may be attributed partly to the displaced uterus acting almost like a foreign body in the vagina, and partly to the general gastro-enteric derangement, and consequent engorgement of the abdominal circulation.

It is to this condition in the present case that I would especially direct attention; it was of no recent formation, but had evidently existed for some time, as shown by her attacks of bilious fever, and by the rheumatism and sciatica from which she has suffered; in other words, the history of her general symptoms tended to prove that the uterus had been long subject to an undue amount of pressure from the superincumbent abdominal viscera, whilst the local examination showed it to be more congested, and therefore heavier than natural.

The application of leeches to the os uteri produced much relief; the blood at first was dark and thick, but gradually became more natural; the catamenial discharge improved in colour, and the pains of which she complained were decidedly diminished. The liver was roused by a gentle alterative, while the activity of the bowels was increased by the combination of ferri sulphas with sulphate of magnesia, a form which is well adapted for relieving passive congestion of the abdominal circulation and torpidity of the bowels, &c. The health continued to improve. The os uteri assumed a more healthy and florid appearance; it resumed its natural situation, and, after applying a suppository of plumbi diacetas with extr. conii, I ceased to hear from her.

ON THE VALUE OF THE THERMIC TREATMENT IN VARIOUS DISEASES,

ESPECIALLY IN

CERTAIN FORMS OF NEURALGIA, PARALYSIS, AND RHEUMATISM.

By GEORGE E. DAY, M.D.,
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In the Appendix to my Treatise "On the Diseases of Advanced Life," published last autumn, I detailed a few cases illustrative of the success I had met with in the treatment of various local affections, by the application of a form of counter-irritation, which, although casually noticed by several surgeons and physicians, appeared to me never to have met with the attention from the Profession which its singular value demands. For the want of a better name I have called it the *thermic treatment.* It consists in the instantaneous and repeated application of a small iron hammer, gently heated to the skin. The merit of introducing this form of counter-irritation is due to the late Sir Anthony Carlisle, who, early in the year 1826, published a letter to Sir Gilbert Blane, "On Blisters, Rubefacients, and Escharotics, describing the employment of an instrument adapted to effect those several purposes," and in the November Number of the *Philosophical Magazine* for the same year, addressed a letter to the Editor of that Journal on the same subject. This instrument was for some time used in the Westminster Hospital; but the only information I can obtain regarding the success of Sir Anthony Carlisle's treatment in that Institution is, that he failed to cure two cases of hydrophobia, in which he freely applied it along the spine. In 1829, M. Mayor, (a) of Lausanne, published a Memoir, "Sur la cautérisation avec le marteau," in which he shows, that by an instrument of this nature, the effect either of a mustard-poultice, or of a blister, or even of the moxa may be instantly produced. Both Sir Anthony Carlisle and M. Mayor heated their instruments by immersion in boiling water. This method has been adopted by Trousseau, (a) Harvieux, (b) Vanoye, (c) Kneeland, (d) and others. About three years ago, Dr. Corrigan published (in the *Dublin Hospital Gazette*) a series of cases treated in a somewhat similar manner; he, however, makes use of the flame of a spirit-lamp for the purpose of heating his instrument, which, from the description he gives of it, seems more portable and convenient than those previously employed. The instrument I employ is shorter and more portable than that recommended by Corrigan. It is in reality a small hammer. (e)

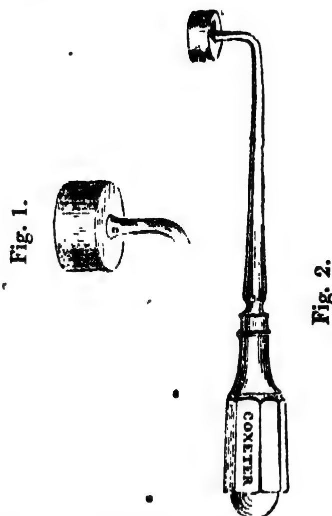


Fig. 1. The actual size of the extremity.
Fig. 2. The whole instrument reduced in size.

Placing the end of the forefinger on its curve, I hold the metallic extremity in the flame of a spirit-lamp for about fifteen or twenty seconds. This is a readier mode of heating it than that adopted by Carlisle. By this time, the finger becomes rather uncomfortably warm, and this I regard as indicative of the instrument being sufficiently hot for my purpose. I run it lightly, alternately raising and depressing it, over the part affected. The whole operation is over in a few seconds, the patients scarcely ever complain of the application being painful, and the slight discoloration of the cuticle, which usually follows, altogether disappears in two or three days.

Being anxious to see if other Practitioners found it equally serviceable with myself, I urged several friends to give it a trial,—amongst these I may especially mention Dr. Adey, Dr. Miller, Dr. Palmer (our late Resident Officer at the Western General Dispensary), Dr. White of Winchester, Dr. Webster of Cambridge, Mr. J. C. Langmore, Mr. Richardson, Mr. C. A. Aikin, and Mr. Webster. I may observe that, for the last year, a day has seldom passed in which I have not applied the hammer on an average two or three times. Moreover, it is constantly used amongst my patients at the Western General Dispensary, where several of my colleagues have seen and borne witness to its success.

As no object would be gained by a multiplication of cases, I shall select a few, illustrating its value in different forms of disease.

I shall commence with cases of neuralgia. The very list of reputed remedies for neuralgic affections

(a) A writer in the *London Journal of Medicine*, in a notice of my book in that periodical, observes, that my mode of treatment is simply that of M. Mayor. Although there is nothing surprising in his ignorance of the subject, yet as all his information on the point seems derived from my Appendix, it is difficult to understand why he should have deemed it expedient to quash the (at least equally strong) claims of Sir A. Carlisle

(a) "*Traité de Therapeutique.*" Troisième ed., Vol. II., p. 517.
(b) *L'Union Méd.*, Nos. 38, 39, 1847.
(c) *Ann. de Flandres*, Mars, 1848.
(d) *American Journal of Medical Science*, Oct., 1848.
(e) I may observe, that the instrument may be seen in Grafton-street East, at Mr. Coxeter's, who has fitted up very convenient pocket-cases, containing the hammer and a small spirit-lamp.

is sufficient to show how difficult they are to remove, and on what various causes they depend. If we open any recent work on neuralgia, we find under the head of treatment nearly every article of the *materia medica*. Arsenious and arsenic acids and their salts, quinine and the salts of iron, opium and the salts of morphia, belladonna, hyoscyamus, datura stramonium, aconite, valerian and the valerianates, ether, musk, castor, sulphate of zinc, assafœtida, camphor, bismuth, oil of turpentine, croton and cajeput oils, are but a few of the medicines which are reputed to have proved successful in the hands of different Practitioners; to say nothing of the many local modes of treatment which have been recommended in the form of lotions, frictions, endermic and epidermic applications, blisters, cauterization, electricity, mineral magnetism, acupuncture, down to division or excision of a portion of the nerve.

I need scarcely observe, that I am far from wishing it to be understood that the thermic treatment will effect a cure in all neuralgic affections. But of this I am fully convinced, that in all cases likely to be relieved by any system of counter-irritation, the thermic treatment is of the greatest value, both on account of the rapidity with which it allays pain, and in consequence of entailing none of that annoyance on the patient, of which we hear frequent complaints, when using blisters, irritating embrocations, &c.

In order to obtain as fair an estimate as I could, of the value of the thermic treatment, I requested the friends I have mentioned, on whose judgment I could fully rely, to try it, and give me their candid opinion regarding its merits; and I have incorporated several of their cases in this paper.

AFFECTIONS OF THE FACE AND HEAD.

Case 1.—Samuel Flower, aged about 30 years, applied at the Dispensary on the 22nd of March. He had been out of employ for many weeks, and had been exposed to cold and wet, his means of obtaining food being very precarious. He had a haggard and anæmic appearance, and I was led to expect the presence of phthisis, a view which was subsequently confirmed by an examination of his chest. The object of his application was to obtain relief for frontal neuralgia of the right side, which he describes as having been most severe since the 19th, when it came on suddenly and for the first time. He had taken purgative medicine, and applied mustard poultices to the seat of pain without the least relief.

I applied the hammer, which instantly removed the pain. *No medicine* prescribed.

24th—No pain in the frontal region since I applied the hammer two days previously; but complains of slight pain in the back of the head behind the right ear. I applied the hammer to the most painful part, which relieved, but did not altogether at once remove the pain. I saw him again on the 29th and on the 10th of April, and found that there had been no return of the pain.

Case 2.—Emma S., aged 20, single, came under my care on 13th March. She presented a generally healthy appearance, and was regular in reference to her bowels, &c. She applied to me in consequence of severe frontal neuralgia of the left side, and of an irregularly intermittent character. These pains had existed for some months, and she had been under the care of several Practitioners. In consequence of the intermittent character of the case she was ordered the quinine mixture three times a day, the bowels being previously well acted on.

17th.—The medicine afforded no relief, the pain being very severe. I applied the hammer to the forehead. On leaving the room a few minutes afterwards, she said she felt nothing more than the tingling produced by the application of the warm instrument.

20th.—Not a trace of pain since the application of the hammer; I therefore did not apply it, but, as a measure of precaution, again put her on the quinine mixture.

27th.—The pain in the forehead returned on the 23rd with considerable severity, and has continued ever since. The hammer was applied to the frontal region, which relieved, but did not entirely remove, the pain.

April 3rd.—The pain was scarcely perceptible till the 30th, when it re appeared, but with less severity. I applied the hammer.

There was no further return of pain, and she was discharged, cured, on the 14th of April.

Case 3.—" John Bunce (a), aged 38, a labourer, was admitted into the Hants County Hospital, under my care, on January 24th, 1849. Three weeks previously, he had been seized, in the evening, suddenly, with a sharp pain in the left supercillary and frontal region, which had continued, with occasional incomplete intermittence, up to the above date.

Present State on Admission.—Bowels not opened for last four days, and are reported to be generally costive. Some nausea and occasional sickness. Tongue very foul. Pulse 60, weak and quiet. Urine reported to be thick. The left eye three parts closed, and constant lachrymation from it. Intense pain over it.

℞. Hydrarg. chlorid., gr. iij.; ext. coloc. c., gr. vi.; ol. croton., ♏ i.; in pilulis hâc nocte. Enema terebinth. statim. Emplast. extract. aconiti supercilio sinistro.

25th.—The injection brought away some scybalous masses. The pills caused vomiting, and, consequently, did not purge him. He states, that the pain is not so rapid."

Ordered—House-diet, with beef-tea instead of beer.

℞. Ext. coloc. c.; pil. aloës c. myrrha, aa. ʒss.; antim. pot. tart., gr. i.; in pil. xii. div. quarum sumat ii. omni nocte.

℞. Mist. gentian. c., ℥iss. omni mane.

28th.—No relief to the pain, although much scybalous matter has been removed. Ten minims of the solution of amorphous quinine were ordered to be given twice a day, in the form of draught, in addition to the previous medicine.

Feb. 2nd.—The quinine has now been taken for four days without benefit. Applied the hammer freely over the painful eyebrow, and the adjacent frontal region. Immediate relief obtained. Ordered to discontinue the quinine, and to take three minims of Fowler's solution in decoction of sarsaparilla, thrice daily.

4th.—The pain has been very slight ever since the application of the hammer. He was, in fact, so much relieved by it as to leave the Hospital on the 9th.

March 3rd.—Attended this day as an out-patient. The pain had returned, but with nothing like its original severity. I again applied the hammer, when he stated himself as freed from all pain.

13.—Has not again presented himself at the Hospital."

In a subsequent letter from Dr. White, I find that this patient is now exhibiting undoubted symptoms of organic disease of the brain. This probably explains the nausea of which he complained on admission, and the extreme constipation. I regard the case as very instructive, showing that, *even when the neuralgic affection is dependent on cerebral disease, great alleviation of suffering is obtained by this treatment.*

The following case produced a great impression on my mind at the time:—

Case 4.—William Cox, aged 45; a servant out of place; came under my care on Nov. 19th; has been a soldier, and spent fifteen years in India, where he had several attacks of dysentery; has been six years in England, during most of which time he has been a gentleman's servant; gave up his last place about two months ago, in consequence of severe pains in the right side of his face.

These pains began the previous March, after prolonged exposure to cold and wet while travelling with his master. He describes them as rapid, shooting pains, of an insupportable character; they partly yielded to medical treatment during the ensuing warm months, but at the commencement of the autumn they returned with their former severity, and he was rendered altogether unfit for work.

His countenance is sallow, and bears the signs of acute suffering. He has comparatively little pain during the day, but about half-past six every evening a darting agonising pain comes on, which he describes as rendering life insupportable. It extends over the whole of the right side of the face, is very severe in the right temple, and proceeds, but with much less severity, towards the top of the head. It seems neither increased nor diminished by pressure over the infra-orbital foramen, or at any other point, although it may be sometimes excited during the day, by simply touching the face, or by a gush of cold air. The mere touch of the bed-clothes would often induce it at night. From prescriptions which he showed me, it appears he has taken iron, quinine, arsenic, colchicum, and iodide of potassium; and besides these medicines he had got into the habit of taking very large doses of opium. A new remedy often gave him relief for a few days, but then seemed utterly inert.

The bowels were constipated (probably, in part, from the opium); the urine was loaded with urate of ammonia; the skin dry and somewhat yellow; the tongue foul; the appetite bad; and, on examining the abdomen, I found considerable enlargement of the liver, unaccompanied, however, with any tenderness.

I ordered a pretty sharp emetic, to be followed next morning by four ounces of infusion of senna, with half a drachm of sulphate of potash, and a scruple of sulphate of manganese, and restricted him to a milk and farinaceous diet. He promises to diminish his dose of opium by one half.

22nd.—The tongue was now almost clean; the bowels had been very freely acted on, the evacuations being well tinged with bile. The pains had been much the same, but he felt better in himself. I saw him about three hours before the period at which the paroxysm usually came on, and applied the hammer freely over the right cheek and temple. The application did not excite the nervous pain, and gave him no annoyance in any way. I prescribed nothing but a little aperient medicine, to be taken daily.

23rd.—There was no pain whatever till between nine and ten o'clock last night; that is to say, the access was totally retarded for three hours; and it was then much slighter; more, in fact, like the occasional pains felt during the day. Applied the hammer as before.

I need not follow out all the particulars of this case, as noted down at the time. In the course of a week, the opium was altogether dispensed with.

The hammer was applied seven times in all, at intervals of two or three days; and I gave him, on the 30th, a mixture of iron and quinine, taking care only to regulate the bowels.

Dec. 14th.—He called to thank me, and to report himself as well as ever he was in his life. I saw him once afterwards, some time in January. He came to tell me he had got a situation, and was going to leave London. There had not been the slightest relapse. I desired him to write to me if there was any return of the pain; but I have not heard from him.

The treatment of this case differs from that in the previous ones, in the fact of the hammer being applied at times when there was comparatively little pain; that is to say, before the paroxysms.

I might give several other cases, although less marked than that of Cox, in which the thermic treatment has afforded relief, after numerous other means have altogether failed.

For notes of the following and several similar cases, I am indebted to the kindness of Dr. Palmer, our late resident medical officer.

Case 5.—Mrs. Gallop, aged 30, applied for relief at the Western General Dispensary, on the 28th of March, in consequence of neuralgia of the left temple. The hammer was applied, which at once relieved the pain; tonics were also prescribed.

April 2nd,—There has been no return of the pain.

Case 6.—Mrs. Clarke attended the Dispensary on April 26th, in consequence of an attack of hemicrania.

(a) For this case I am indebted to Dr. White, Physician to the Winchester Hospital.

The pain was at once relieved by the application, and did not return for two days. I am not in possession of any further notes regarding this patient.

In the following cases the reason of the failure is tolerably obvious.

Case 7.—Frances Preston, aged 48; entered under the care of Dr. Miller, at the Western General Dispensary, on the 27th of March. The case is copied from notes with which he has obligingly favoured me.

"Sallow and cachectic; has not menstruated for four years; hysterical; has been the subject of inveterate neuralgia of the face and neck for more than a twelvemonth. Neuralgia of the fifth on the right side, and of several branches of the cervical plexus. She obtained some relief from quinine and morphia, but it was not permanent. The hot iron was applied on the 3rd of April, which afforded some relief to the neck; pain still severe about the face. The iron was again applied on the 5th and the 10th, with a slight temporary relief, and I believe once subsequently. She prefers the local application of belladonna, and I cannot get her to try the hot iron again. I believe that in this case there is some disease of that portion of the skull through which the branches of the trifacial on this side pass."

I fully concur in Dr. Miller's view, that there is disease of the bone in this woman; a view much strengthened by her having recently had a sanguineo purulent discharge from the nostrils.

I may add, that last week (July 19th) she voluntarily applied to me, with Dr. Miller's full concurrence, to use the hammer. It afforded considerable instantaneous relief. Leeches to the temple were also prescribed by Dr. Miller. On the 26th, she again appeared, having spent a week of comparative ease. How far the leeches alleviated the pain I cannot say. She, however, attributed the relief to the hammer, and, at her request, I again applied it.

I shall now give a few cases, in which the thermic treatment has been tried in *facial paralysis* (paralysis of the portio dura).

Case 8.—For much kind and valuable assistance in this case I am deeply indebted to Dr. Watson and Mr. Dalrymple. G. E. D., a Physician practising in London, had been for some time under the care of Mr. Dalrymple for an obscurity of vision affecting the left eye. On the night of the 17th of January he travelled a long distance in a railway carriage, with his right cheek for some time near an open window, but did not perceive any draught or current of air. On the following morning he felt a very slight degree of tension in moving the lips, and the right eye (the one usually unaffected) became every now and then irritable, and apparently covered with a film. These, and the other ordinary symptoms of facial paralysis, then regularly set in, and increased in intensity till all power over the muscles of the right side of the face, supplied by the portio dura, was completely lost. The most distressing symptom was the impossibility of moving the right eyelid, a dimness being continually present, which was only removable for a few seconds at a time, by pressure on the globe. On the 20th, Mr. Dalrymple proposed that Dr. Watson should be consulted [illegible] a week or two [illegible] previously to the attack, there had been severe and prolonged vomiting, intense vertigo, and other symptoms indicative of mischief within the cranium. Taking into consideration these previous symptoms (and, even at this period, there was still considerable vertigo), Dr. Watson and Mr. Dalrymple prescribed one-twentieth of a grain of bichloride of mercury to be taken with compound tincture of bark three times a day, and an open blister behind the right ear. This treatment was steadily persisted in for about ten days, with not the slightest alteration in the state of the face, although with considerable improvement in the general health. Mr. Dalrymple, who had been reading the cases recorded in the Appendix to my treatise "On the Diseases of Advanced Life," suggested that the hammer should be applied, as directed by me. The suggestion was at once adopted, and the hammer applied twice daily. On the first evening (after only two applications) the power of closing the right eye was restored, and, in the course of a week, every trace of paralysis had disappeared.

Case 9.—Mr. W. E., aged 47, had an attack of paralysis of the portio dura of the right side, in March, 1843, after travelling outside a coach, and being exposed to rain the whole day. Various remedies, of which, however, he cannot give a very accurate account, were tried, but electro-magnetism was the first that proved serviceable. Under this remedy the paralysis entirely disappeared in the course of the ensuing summer; but, since that time, any exposure to cold or wet is liable to bring on involuntary twitchings of the muscles originally affected, which usually last five or six days, and then gradually disappear. To use his own expression, "he looks as if he were performing a series of very exaggerated winks."

A single application of the hammer immediately arrests these attacks. He now applies it himself, whenever he feels the peculiar stiffness of the cheek which always precedes them.

These cases occurred in my own practice. The next occurred under the care of my friend, Mr. Richardson, and I am indebted to him for the following notes of it.

Case 10.—M. W., a married lady, aged 40, extremely nervous, was seized during the night of Wednesday, April 25, 1849, with paralysis of the portio dura of the right side. On seeing her on the following morning, about nine o'clock, I found the face much disfigured. She complained of a dead feeling in the right cheek. Pulse 74, tongue loaded, bowels confined, no pain in the head. I applied the hammer over the whole of the affected side, and ordered some aperient medicine.

27th.—She felt the face more comfortable, the feeling of deadness in the affected part was less, but there was no improvement in her appearance. Hammer re-applied.

28th.—Decidedly better, and her appearance more natural. From this time she daily improved under the use of the hammer, till the 5th of May, when, as there only remained a slight stiffness of the muscles of the right side of the face, no further application was made.

In this case, no treatment was adopted but the use of the hammer, with an occasional aperient to regulate the bowels.

Mr. Richardson has given me the particulars of another case of facial paralysis, in which "mercury to the extent of salivation, colchicum, purgatives, counter-irritation, galvanism, &c., were used, without producing the slightest improvement," and where the hammer was ultimately "employed every day for a fortnight, but without any good result." He adds, however, that "the cause of this paralysis was probably of an organic nature, and therefore no benefit could be expected from any mode of treatment."

SCIATICA AND LUMBAGO.

I shall now give, as briefly as I can, a few cases of sciatica and lumbago, which are often associated affections. I have notes of a very considerable number of cases in my own practice, and I have been favoured with the particulars of other cases by Drs. Miller, Palmer, and Webster of Cambridge, and Messrs. Richardson, J. C. Langmore, Webster, Aikin, &c. &c.

I have never met with a case of sciatica or lumbago, however severe or chronic, which was not much relieved by the thermic treatment.

Case 11.—Charles Pope, aged 41, a carman, presented himself at the Dispensary on the 5th of April, suffering from intense lumbago and sciatica of the right side, extending to the calf. He could not take off his coat, or sit down without assistance, and stated, that even the passage of flatus or fæces from the bowels, caused much pain. Was much exposed to cold and wet about six months ago, and for the last five months he has never been free from pain for forty eight hours together. During the last three days the pain has been extremely aggravated, entirely preventing sleep. Dr. Adey (whose valuable assistance in testing the importance of this treatment I gladly take the present opportunity of acknowledging) applied the hammer freely over the whole seat of pain. He did not feel any instantaneous relief, but, on the 7th, (two days subsequently,) told us that the pain had very much abated, directly after leaving the dispensary, and that it was now *quite gone from the loins and thigh*, and that the only remaining trace of his ailment was a dull, aching, sensation in the calf. The hammer was applied there.

10th.—No pain worth speaking of in the calf, and none whatever in his loins and thigh since the first application. I again applied the hammer to the calf. He had returned to work the previous morning, and could walk without the slightest inconvenience.

Case 12.—Mary H., aged 27, applied as a morning patient at my house, on the 26th of June. She had great difficulty in walking into my room; was bent very much forward, and, when she finally contrived to seat herself, informed me,—and her statement was obviously true,—that any movement of the body gave her intense pain. She stated, that she was perfectly well till about five months ago, when, shortly after her confinement, she caught cold, and had an attack of rheumatic fever, for which she was under the care of a highly respectable surgeon in this neighbourhood. She was confined to her bed for two months. When the acute symptoms had disappeared, she had still very severe pains, especially in her shoulders, loins, hips, and knees, totally incapacitating her from following her household duties, and preventing her even from dressing herself. The gentleman referred to recommended that she should become an in-patient in one of the hospitals, and use vapour-baths. She accordingly entered St. George's, where she remained nearly three weeks, without any relief. She was not allowed vapour-baths, in consequence of her debilitated condition; and she was rapidly losing flesh. It is now about ten days since she returned home in a very desponding state.

On examining her chest, I find she is in an advanced stage of phthisis.

As the pains in the arms, shoulders, and between the scapulæ, were the most severe, I resolved to try to alleviate them first.

I carefully observed her while the clothes about the upper part of the chest were being removed, and saw that any motion of upper arm and shoulder gave rise to extreme agony. Even the slight motion required for needlework was unbearable.

I applied the hammer very freely, warming it twice, over the shoulders, between the scapulæ, and along the arms. I then desired her to try to raise the arms. She tried very cautiously, and obviously expecting to be, as before, checked by the pain. The arms gradually rose till she clasped her hands together above her head. The poor woman burst into tears at finding the power of her arms thus suddenly and unexpected restored to her. When she became a little more composed, I made her try to move them in various directions, which she found no difficulty in doing. She fastened the back of her dress without the slightest assistance, which she had not been able to do since the commencement of her illness; and left me, promising to attend again in two days, when I was to apply the hammer to her loins and thighs.

I may, perhaps, be allowed to state, that I was so struck with the suddenness and completeness of the relief afforded to the poor suffering woman, that I requested a lady, who happened to call at my house at the time,—an old and much respected patient of mine,—to see the woman before she left. This lady has kindly permitted me to refer to her, should any of my readers suppose the above account in the slightest degree overdrawn.

June 28th.—This day I applied the hammer very freely and extensively over the loins, down both thighs, and over both knees. Great relief was afforded; she was able to walk with considerably more freedom, and with little pain. She can still move the arms without the slightest pain, but complains of their being somewhat stiff.

July 5th.—She has now a feeling of stiffness and occasional aching, (especially at night,) but no pain worth speaking of. I applied the hammer to the points where these sensations were most marked.

I have since seen her three or four times; there

has been no return of the pain, but she is sinking fast from the pulmonary affection.

Case 13.—James Simpson, aged 38, a coal-porter, applied at the Western General Dispensary on July 7th, for sciatica of both thighs, extending nearly to the knees. It commenced without any apparent reason seven years ago; and he states that he seldom passes many weeks without an attack, which is readily induced by much fatigue, by cold, wet, or an east wind.

Six years ago he was in St. George's Hospital under Mr. Keate, and was cupped, blistered, &c., with no benefit. He has since been under many practitioners with little or no benefit. At present there being very considerable pain, the hammer was applied by my friend Dr. Adey. The pain instantly disappeared.

10th.—No return of pain. 19th.—Ditto. I have not seen him since; but doubtless should have done so if there had been any relapse. This is one of the cases where *a single application* sufficed to effect a cure.

Case 14.—Thomas Sturdy, aged 76, applied at the Dispensary on the 30th of June, for pain extending from the loins to the knees. Had suffered from paralysis agitans for many years, and five years ago had a fit, which was followed by loss of power of the right side, which persisted for some time. He had been in the hands of numerous practitioners, partly for the pains and partly for the paralysis agitans. The hammer was applied on the loins, it being there that he said the pain was most severe. He experienced immediate relief.

July 5th.—Pain in the loins very trifling; that in the hips and thighs very severe. Hammer applied on hips, thighs, and loins, causing a total and immediate removal of the pain. I have seen him since, but there has been no necessity for again applying the hammer.

Case 15.—Abel Barry, aged 37, a plaisterer, applied at the Dispensary on the 10th of April. He states that he has been subject to lumbago and sciatica of the right leg for the last twelve years, the pain extending as far as the knee. On the 4th (six days ago) he was suddenly attacked with excruciating pain while at work, and had to be helped home, being utterly unable to walk. Since then the pain has been continuous, and has prevented him from having any sleep. The hammer was applied to the loins and along the course of the right sciatic nerve, and gave immediate relief.

12th.—Since the application on the 10th, the pain has been very trifling; in fact, there has been only an occasional feeling of aching, and, to use his own words, "he feels quite a different man." I applied the hammer to the spots where he had felt the aching.

17th.—No return of pain. Dismissed.

For the notes of the following case, I am indebted to Mr. Richardson:—

Case 16.—"C. R., aged 54, sent for me on the the morning of the 27th of March, to see him on account of a severe attack of lumbago. He was subject to such attacks, and was generally confined to his bed for three or four days by them; and it was commonly a fortnight before all uneasiness subsided. He stated, that this attack was more severe than usual. I found him in bed, lying on his back, with his legs drawn up, incapable of moving in the slightest degree, without the most intense suffering. The pain was confined to the back; pulse 72; tongue tolerably clean; bowels open. I applied the hammer to the back, which caused the pain entirely to disappear, and, to his great astonishment, he was able to get out of bed by himself, and walk about the room without any difficulty. He was merely ordered some aperient medicine.

"28th.—Has had no return of the pain, and feels quite well.

"29th.—Still continues free from pain. Discontinued my attendance."

I am also indebted to the same gentleman for the following case:—

Case 17.—"S. W., aged 24, awoke during the night of Wednesday, the 21st of March, with violent pains in the back. As the pain continued very severe, I saw him about nine o'clock on Thursday morning, the 22nd. He was in bed, lying on his back, and could not move without suffering great pain. No fever; pulse 72; bowels rather confined; tongue rather loaded. I applied the hammer, which relieved him so much, that he could move with comparative ease. Ordered some aperient medicine.

"23rd.—Much better; perfectly easy when quiet, though some pain is still felt on moving. Bowels freely opened. Hammer again applied.

"24th.—Still some pain on motion, but decidedly easier than yesterday. The hammer was used, as also on the mornings of the 25th and 26th, when, the patient being free from all pain on motion, it was discontinued."

In a note appended to these cases Mr. Richardson adds, "I have used the hammer in three other cases of lumbago with equal success; but, as the symptoms were similar to those in the foregoing cases, I have thought it needless to enter into particulars."

For the report of the following cases of lumbago I am indebted to my friend Mr. Langmore of Upper George-street, Portman-square:—

Case 18.—"Mrs. T., aged 62, a laundress, applied on the 1st of February, stating, that last June she 'ricked' her back, by suddenly lifting a weight, and that a fortnight subsequently she had an attack of lumbago, with pain and a sense of coldness down the left leg. This pain has continued ever since, with occasional exacerbations and remissions. She suffers chiefly at night, when moving in bed. The hammer was applied across the loins and along the course of the left sciatic nerve, and the bowels being torpid, a couple of aloetic pills were ordered to be taken on alternate nights.

"8th.—Has felt less pain during the night, and can 'get about' better in the day. The hammer was applied. There was no return of pain for a fortnight, when, in consequence of a slight relapse, she again desired to have the hammer applied. She has made no complaint since that time."

I regret that want of space prevents me from doing more than making a selection from the numerous cases with which my friends have obliged me.

The following note will convey to the reader an idea of the value attached by Dr. Miller to the thermic treatment. I think that some of the cases recorded above will show that he hardly gives it due credit in pure neuralgia. In two of the cases (Cases 3 and 7,) there is no doubt that it afforded great temporary relief, although the pain was due to structural disease:—

"40, Welbeck-street, July 6, 1849.

"My Dear Dr. Day,—You ask me for the notes of all the cases in which you have applied the hot iron for me at the Dispensary, as well as my opinion regarding the cases in which that mode of treatment seems the most serviceable.

"I subjoin seven cases from my note-book. They are taken, as they were presented to both of us, indiscriminately. In all painful local affections, the result of exposure to cold apparently, the use of your hot iron seems a very valuable remedy. But in cases of pure neuralgia, not resulting from exposure, but from deeper-seated constitutional causes, I cannot say I have seen much good derived from its use.

"Believe me, yours very faithfully,

"Dr. Day." "JAMES MILLER.

The following case occurred in the practice of my colleague, Dr. Miller, and I am indebted to him for the notes of it.

Case 19.—"William Franklin, aged 45, applied to me on the 1st of March. Has sciatic pain, in consequence of sitting in wet clothes. Pain commences near the great trochanter on the left side, passing down the outer side of the limb. Cannot walk without great difficulty. Is a rheumatic subject. The hot iron was applied by Dr. Day. A little relief immediately followed its application.

"March 3rd.—Pain extends now to the foot; the iron re-applied. Immediate relief experienced.

"8th.—Wholly free from pain. Walks with an awkward gait only."

It is needless to multiply cases, when the treatment and the results following it are so uniform. I shall conclude the present memoir with

Case 20.—The case of Mr. K. W., a Polish gentleman sent to me by Sir James Clark. He is an artist by profession. Has lived freely, and suffered by it. Eight years ago, when in the south of France, whither he had repaired for the benefit of his health, he sprained his left foot, and suffered pain and weakness in the joint for upwards of two years. Four years afterwards he was sitting down on the grass, and on rising he felt such great pain in the left leg and hip, especially in the vicinity of the old strain, that he had to be carried home from the spot where he had been sitting. Six months subsequently, and when he had not altogether recovered from the above mentioned attack, he was seized, when rising from the prone position, with a violent pain in the loins, to which were speedily super-added the previous pains in the left leg and hip, and pain of a less violent character in the right thigh and leg. This state of things has now continued for upwards of two years, constituting a very severe case of lumbago and double sciatica. Has gone through all the ordinary remedies without any permanent relief.

I first saw him early in June, when I applied the hammer freely over the loins, hips, and thighs. He experienced little or no immediate relief, and was directed to call again in three days. On his second visit he informed me that he felt decidedly better; the pain was far less acute, and not troubling him at night as it used to do. I applied the hammer, and continued to do so at intervals of four or five days, for three weeks, when the acuteness of the pain was altogether gone, and I permitted him to go to a watering place on the south coast, where he had a professional engagement.

REMARKS ON THE OFFICE OF THE COCHLEA, AS THE SPECIAL ORGAN FOR THE MENTAL DISCRIMINATION OF THE PITCH AND AGREEMENT OF MUSICAL SOUNDS.

By J. D. MACDONALD, Member of the Royal College of Surgeons of London.

(Concluded from page 71.)

The effects of sound shall next occupy our attention in connexion with the physiology of the cochlea. When sounds fall on the outer ear, they are collected by the auricle, and conveyed along the meatus auditorius to the membrana tympani, the conically depressed surface of which seems further to concentrate them, and transmit them to the chain of ossicles by which they are conducted to the internal ear, and thus impinge on the nerves of the vestibule, where, no doubt, the intensity of sounds is felt, and on those of the semi-circular canals, where, perhaps, their distance and position are appreciated. But what more immediately concerns us is, that a portion of the sonorous vibrations passes along the scala vestibuli, (as we suppose, for the analysis of pitch,) which, after having reached the cupola, probably descends by helicotrema, for some distance in the tympanic scala. This we may term the primary or direct current of sound, to distinguish it from another, which is of a secondary character, and in part derived from the former. This current is formed by the vibrations of the ossicles and parts connected with the tympanum, communicated to the air in its cavity, and transmitted through the membrana fenestræ rotunda to the scala tympani. In the scala tympani it meets with the primary one, which we have traced to this locality. Now, without straining any fact which may naturally exist, or laying down groundless suppositions to establish a theory, it appears clear, that, by following the course which sounds appear of necessity to take, agreeable to the physical structure of the parts of the organ of hearing, a collision of two currents of sonorous undulations takes place in the scala tympani of the cochlea where the nerve is spread out to receive the impulse thus excited; and if the particular locality in the scala where the collision of those currents takes place, is regulated by the pitch of the sound composing them, it does not seem unfair to infer, that there is a certain spot on the expansion of the cochlear nerve where each note is duly appreciated by the mind, the very arrangement of the fibrils of the nerve itself would

indicate the position; for, in proportion as the little bundles which they form approach the apex of the coil, they diminish in size; so that they may be said to hold a certain relation with the pitch of the sounds impinging upon them.

As the membrana fenestræ rotundæ has no muscular apparatus adapted to it, whereby its tension may be modified, we may infer, that, independent of the action of the membrana fenestra ovalis, the sonorous vibrations transmitted through it to the scala tympani can never be altered in their effect, while their qualities remain the same as to their strength of tone and particular pitch. But the membrana fenestra ovalis being firmly connected as it is with the ossicula auditus, must suffer considerable change in its vibratile properties from corresponding alterations in its tension effected by the action of certain muscles which draw upon the ossicula, and thereby upon the membrane. The same chain of bones being employed, though as passive organs, in the adaptation of the membrana tympani to the sounds impinging on it, manifests a unity of design and function between the latter membrane and the membrana fenestra ovalis, although their positions and connexions being different must call for the performance of offices peculiar to each.

The fenestra ovalis, then, being the inlet of sounds passing to the scala vestibuli, it would appear that the tension of its membrane, or the pressure which the base of the stapes exerts through it on the perilymph, is exactly adapted to the pitch and quality of the tones entering to the nerve, at least within a certain range, while the membrana fenestræ rotundæ being passive does not alter the vibrations passing through it, except by the operation of the membrana fenestra ovalis, for the latter indirectly acts upon the former through the medium of the perilymph; thus the same change which modifies the current of sound in the vestibular scala is found also to affect that in the scala tympani. This has been demonstrated by Weber, although in quite another way, and it seems intimately connected with the localizing of impressions. It is probable that the cochlear muscle, lately put forth in its true light in Dr. Todd's and Mr. Bowman's Physiology, exerts its influence in the adaptation of the nerve to particular sounds, both as it regards their intensity and quality of pitch, if the above views be correct. It may be brought into play where the nerve is percussed by the meeting of the currents aforesaid; but the *modus operandi* does not appear very manifest, whether by contraction or relaxation. Even waving the doctrine of a collision of the sonorous currents, by their simple crossing in the scala tympani, the impression upon the nerve is, in effect, doubled, and there is also ample provision made for the physical operation of the law of interference, so that the mind may be impressed with the agreement or disagreement of two or more sounds according as their undulations may, or may not, correspond.

In connexion with the doubling of the impression just noticed, it may be added, that the capacity of the coiled tube of the cochlea as a closed acoustic instrument (of about one inch and a half in length, and having a diameter of one-tenth of an inch at the base, and one twentieth at the apex) may be estimated at double that which its measurements would indicate, were it at all open, as is shown by a circumstance that has hitherto escaped the observation of physiologists.

It is well known to scientific musicians that any open organ pipe can be made to sound its octave, or eight notes below, by stopping the end of it, thus, —E on the fourth space becomes equivalent to E on the first line, and this constitutes the difference between the open and stopped diapason. The former affording a free outlet to the air at its extremity, while the latter being closed, confines it, and causes a retrograde current of sound to take place in the pipe, which seems to produce the deep note of the octave. Now, this principle of the stopped diapason is closely adhered to in the general arrangement of the cochlea; yet, it not only consists of a closed tube, but the retrograde current which takes place in the scala tympani, when the sound reaches the cupola from the vestibular scala, is separated by the spiral lamina from the primary current in the latter scala, and thus a more perfect structure is formed (a hint to organ builders.) And, again, instead of the sound passing off by an opening, as it does eventually in the stopped diapason pipe, the retrograde current is met, as above explained, by the vibrations which the membrana fenestræ rotundæ transmits from the cavity of the tympanum to the tympanic scala. On the supposition that the small membranes of the labyrinth, if separated from the organs, would perform some multiple of the number of vibrations constituting any sound impinging on them, it is not improbable that this rapid vibration may be diminished to a considerable extent, but in the proper ratio, by the last-mentioned arrangements, so as to approach nearer to the characters of the original sound.

REMARKS, STATISTICAL AND GENERAL, ON TRANSFUSION OF BLOOD.

By C. H. F. ROUTH, M.D.,
Physician to the St. Pancras Royal General Dispensary.

My attention having been lately called to the subject of tranfusion of blood, in consequence of my having resorted to that plan of treatment in a case of cholera (see *Lancet*), I was led to collect together in a tabular form all the recorded cases in which this operation had been performed, with a view of coming to something like a definite result upon the expediency of it, and the cases in which it should be practised. For, much as is due to Messrs. Blundell, Waller, and Doubleday, for the vast amount of information, chiefly physiological however, on this subject, still deductions made on any extensive set of cases on the human subject are a desideratum. I think the facts herein embodied are such as to justify the more general practice of this operation in many cases which have hitherto been considered hopeless. I must admit, I was quite unprepared for the conclusions to which the investigation of this subject has brought me, I presume others will be equally surprised on their perusal. In this manner I have thought that it would not be altogether without interest to bring the subject before the Profession.

The following is a List of all the recorded cases which I have been able to collect, and in which I have endeavoured to embody some of the most important points connected with the operation:—

FORTY-EIGHT CASES IN WHICH THE OPERATION OF TRANSFUSION OF BLOOD WAS PERFORMED, WITH A SHORT SUMMARY OF EACH CASE, AND THE RESULT OBTAINED.

1. THE MORE ANCIENT CASES.

No. 1.—Reported in the "Philosophical Transactions," Vol. II., by Messrs. Lower and King; a healthy man. Twelve ounces of arterial blood were taken from a sheep, having been first received in a vessel, from which quantity 6oz. were transfused. Subsequently a direct communication by means of a quill being established between the artery of the sheep and the vein of the man, other 6 oz. were transfused. No ill effect resulted.

No. 2.—Reported in the "Philosophical Transactions," Vol. II., by Mr. Denys; a lethargic young man. The blood from the artery of a sheep was again transfused in this case with the effect of sharpening, it is said, his wits!

No. 3.—Reported in the "Philosophical Transactions," Vol. II., by Mr. Denys; the same person. The operation being repeated on another occasion, he died.

No. 4.—Reported in the "Philosophical Transactions," Vol. II., by Messrs. Denys and Emery; mania; aged 34. This patient was first bled to 10 oz., and 6 oz. from a calf were transfused. He was better next day, when a second transfusion was practised, and 1 lb. of calf's blood injected, when, complaining of suffocation, it was suspended. He got better. Some weeks after, however, he got worse, and the Medical men would not repeat the operation. He subsequently died.

2. THE MORE RECENT CASES.

No. 5.—Reported in the "Physiological Researches," by Dr. Blundell; uterine hæmorrhage. In this case respiration ceased six or seven minutes after the Doctor's arrival. The blood obtained from two males was easily injected, but no resuscitation followed.

No. 6.—Reported in the "Physiological Researches," by Dr. Blundell; bursting an artery. This was a case at Guy's Hospital, a patient of Mr. Key's. The operation of transfusion was not performed till three or four minutes after cessation of respiration. No resuscitation followed.

No. 7.—Reported in the "Physiological Researches," by Dr. Blundell; puerperal fever. Symptoms of prostration occurring, the operation was performed; 6 oz. obtained from the father being injected. No obvious effect was produced. She ultimately died of the fever.

No. 8.—Reported in the "Physiological Researches," by Dr. Blundell; uterine hæmorrhage. 3 or 4 ozs. only could be obtained from a young lady for transfusion in this case. This was injected before respiration ceased, but was not sufficient to produce resuscitation.

No. 9.—Reported in the "Physiological Researches," by Dr. Blundell; obstinate vomiting; aged 35. This was a patient of Dr. Cholmleys at Guy's Hospital. The operation was performed by Messrs. Blundell and Cline. He rallied the first thirty hours after the operation, but then sunk again, and finally died fifty-six hours after the operation. In this case, however, scirrhus of the pylorus was found after death.

No. 10.—Reported in the *Lancet*, 1825-6, Vol. IX., p. 111; Mr. Doubleday's first case; uterine hæmorrhage. In this case the blood was furnished by the husband. Recovered.

No. 11. Reported in the *Lancet*, 1825-6, Vol. IX., p. 154, by Mr. Waller; uterine hæmorrhage. In this case, after the transfusion of 9 oz., the patient completely rallied. It was feared, however, in consequence of her previous debilitated state of health, she would ultimately die, but not by reason of the transfusion.

No. 12.—Reported in the *Lancet*, 1825 6, Vol. IX., p. 782; Mr. Doubleday's second case; uterine hæmorrhage. This patient was completely insensible when the operation was performed, and did not rally.

No. 13.—Reported in the *Lancet*, 1825-6, Vol. IX., p. 295, by Dr. Uwin; uterine hæmorrhage. From 1 to 1½ hours after the expulsion of the placenta, hæmorrhage supervened; 6 hours after, transfusion was practised; 6 oz. taken from Mr. Wright were transfused. She rallied, but sunk again, when 6 oz. more, taken from Dr. Uwin, were injected, and she completely recovered.

No. 14.—Reported in the *Lancet*, 1826-7, Vol. II., p. 457, by Mr. Brown; uterine hæmorrhage; aged 30. This was a lady of delicate health. The operation performed by Messrs. Waller and Doubleday. Recovered.

No. 15.—Reported in the *Lancet*, 1828-9, p. 232; Mr. Dieffenbach's first case; hydrophobia. This patient did not recover.

No. 16.—Reported in the *Lancet*, 1828-9, p. 232; Mr. Dieffenbach's second case; asphyxiated child. This child was still-born. On injection of the blood he moved a little, but did not finally recover.

No. 17.—Reported in the *Lancet*, 1828-9, p. 432, by Dr. Blundell; uterine hæmorrhage; aged 25. Assisted by Messrs. Davis, Pointer, and Lambert. The hæmorrhage was stopped but such weakness supervened, that transfusion, was practised; Mr. Davies supplying the blood. She quite recovered.

No. 18.—Reported in the *Lancet*, 1827-8, Vol. I., p. 662, by Mr. Clement; uterine hæmorrhage. In consequence of a miscarriage; 15 oz. obtained from a healthy man transfused. Quite recovered.

No. 19.—Reported in the *Lancet*, 1827-8, Vol. I., p. 698, by Messrs. Howell and Ravis; uterine hæmorrhage before labour; aged 40. On March 31, at half-past three o'clock, sent for; found the patient flooding. The membranes were ruptured, and hæmorrhage stopped. At six, sent for again; slight labour-pains and flooding noticed; very cold surface and pallidity. 3 oz. of brandy given without effect. Mr. Ravis called in, agreed on the propriety of transfusion. Mr. Doubleday called in; collapse complete. 12 oz. of blood cautiously transfused. She rallied after the injection of 5 oz., when pulse was perceptible, and the body warm. Still-born child expelled one hour after transfusion.

No. 20.—Reported in the *Lancet*, 1829-30, p. 369, by Mr. Green; compound fracture of tibia, secondary hæmorrhage, and amputation. The secondary hæmorrhage came on ten days after the accident; subsequently amputation was performed. The operation of transfusion was twice performed, 8 oz. on the first, and 10 oz. on the second occasion. She finally died, and Dr. Blundell who saw her opined there was some other cause of death.

21. Reported in the *Lancet*, 1830-1, Vol. I., p. 50, by M. Roux; secondary hæmorrhage after a gun-shot wound. The wound was in the right shoulder; the bone minutely fractured. On the

25th day secondary hæmorrhage came on; it was arrested for one week, but returned, when the subclavian was tied. The hæmorrhage continued, with some symptoms of pleuritis; the patient was much exhausted; transfusion was practised; 10oz. were injected, when suffocation came on and he died. In the *post mortem*, the heart and left subclavian were found filled with clots, and the left lung contained small abscesses.

22. Reported in the *Lancet*, 1834, Vol. V., p. 156, by Dr. Klett, 1st. case; uterine hæmorrhage; aged 41. Slight hæmorrhage had continued eighteen hours after delivery, when Dr. Klett was called in. Collapse was then present; the astringents and excitants given had no effect; ℥ij were transfused, the blood being taken from a healthy male. The patient rallied, and under the use of tonics recovered completely.

23. Reported in the *Lancet*, 1834, Vol. V., p. 156, by Dr. Klett; 2nd case; uterine hæmorrhage; aged 31. This case closely resembled the last. Complete recovery here also resulted.

24. Reported in the *Lancet*, 1834, Vol. V., p. 924, by Messrs. Healey and Fraser; uterine hæmorrhage; aged 40. This patient was frequently subject to pulmonary attacks. She was delivered of her tenth child by a midwife; the placenta retained, and intense hæmorrhage followed; Dr. Healey called in. Complete collapse; no pulse; cold; intellect clear. Dr. Fraser called in. Placenta partly adherent, not removed, as it was thought such an attempt would be fatal; 4 oz., taken from the husband, transfused; she quite rallied, and, subsequently, the placenta was removed. Cure complete.

25. Reported in the *Lancet*, 1842-3; Westminster Hospital case. Particulars not stated, but the patient recovered.

26. Reported in the *Lancet*, 1839-40, Vol. II., p. 871, by Mr. May; uterine hæmorrhage; aged 29. Slight hæmorrhage had persisted off and on for two months, continuing after quickening. Mr. May sent for, and found a placenta previa; secale cornutum given; fœtus expelled next day; much hæmorrhage supervened. Dr. Cowan and Mr. Harris called in. Collapse then complete; transfusion practised; 2½ oz. blood taken from four males transfused. Placenta expelled next day; she rallied quite, but secondary hæmorrhage came on five days after, of which she died. No signs of phlebitis were observed after death.

27. Reported in the *Medical Gazette*, Vol. XIV., p. 599, by Mr. Bickersteth; uterine hæmorrhage; aged 30. Fourth child; eight months gone; 27th August in labour pains; os uteri not dilated; opium given. 28th. In strong labour; delivered of a stillborn child; placenta came away immediately; hæmorrhage supervened. Mr. Blackburn called in. Cordials given; patient cold and clammy; pulse just sensible; answered questions, but did so unconsciously; 10 or 12 oz. transfused. Cure complete.

28. Reported in the *Medical Gazette*, Vol. XVI., p 480, by Mr. Turner; medullary sarcoma of knee, amputation; aged 37. Female; Sussex County Hospital. Thigh amputated; femoral veins being much enlarged, much hæmorrhage followed succeeded by collapse; 5 oz. from a gentleman present transfused; rallied; stump healed. Cure complete.

29. Reported in the *Journal of American Medical Science*, Vol. VII., 1830, p. 255, by Dr. Savy; uterine hæmorrhage; aged 36. Third month of gestation; transfusion practised, and cure complete.

30. Reported in the *Journal of American Medical Science*, 1827-8, Vol. I., p. 229; Vol. IV., p. 430, by Mr. Douglas Fox; uterine hæmorrhage. A six months fœtus expelled; placenta retained through an hour-glass contraction; hæmorrhage arrested, but collapse followed. She rallied completely on the transfusion of about a common teacupful of blood. Recovered completely in three weeks.

31. Reported in *Forbes's Medical Review*, Vol. XI., p. 263, by Dr. Richard Oliver; uterine hæmorrhage. The blood was obtained from three neighbours; 12 oz. were then injected; she rallied upon this; finally, 24 oz. in all were transfused.

32. Reported in "L'Experience," Vol. VI., p. 41, by Mr. Lane; hæmorrhage after strabismus. In a case of hæmorrhagic diathesis, where the operation for strabismus was performed, hæmorrhage continued for six days, when, by reason of the collapse, 5 oz. were transfused gradually; subsequently, 10 or 12 oz., obtained from a female. The recovery was slow but complete.

33. Reported in the *Medical and Provincial Journal*, by Drs. Prichard and Clarke; atrophy from dyspepsia. The dyspepsia in this case had been an early symptom. At the time of the operation urine was depositing large quantities of chyle and lithates; all attempts to take nourishing food failed by reason of the vomiting; 16 oz., taken from a man servant, were then injected. He instantly revived and completely recovered in three months.

34. Reported in the *Gazette Medicale*, 1838, by M. de Berg; uterine hæmorrhage; aged 39. In this case secondary hæmorrhage occurred in four days after delivery; in consequence, transfusion practised. Recovered.

35. Reported in "Guy's Hospital Reports," Vol. II., p. 256, by Dr. Ashwell; uterine hæmorrhage. In this case the blood was first provided by Mr. Lever. 7 oz. being injected she revived, but sunk again, when more blood, taken from the husband, was transfused. She revived but sunk again, and died one hour after the operation.

36. Reported in the *Gazette Medicale*, Vol. VII., p 519, by Mr. Scott; hæmorrhage after the removal of a tumour; aged 14. This case occurred in the London Hospital. In consequence of collapse after the operation, transfusion was practised, but the patient died three hours after.

37. Reported in the *London Medical and Physical Journal*, by M. Blieding; violent hæmoptisis; aged 38. The patient was phthisical. The hæmorrhage could not be stopped till the next day, when it subsided under the use of external refrigerants and acid drink; five days afterwards collapse set in, when 6 oz. of blood from a man were transfused; a phlebitis followed from which he recovered in eight days. Got quite well in three months.

38. Reported in the *Medical Times*, Vol. XII., p. 214; *Northern Journal of Medicine*, Vol. III., 1845, by Mr. Brown, (Preston); prostration after instrumental labour; aged 37. This was a case of a woman liable to epilepsy. Labour occurring with great prostration, Mr. Naylor, the accoucheur, perforated and delivered the woman; collapse, however, came on; Mr. Brown called in. Ether and ammonia were given without effect; 4 oz. of blood, supplied by a female, were then transfused; re-action occurred before this quantity was transfused. Complete recovery followed.

39.—Reported in the *Archives Generales de Medicale*, Vol. XXIV., 1830, p. 132, by M. Goudins; uterine hæmorrhage. Mrs. G.; fifth pregnancy; hæmorrhage; intense collapse followed; 4 ounces obtained from a healthy woman transfused; recovery complete.

40.—"On Uterine Hæmorrhage," by Dr. Ingleby; prostration during gestation; hæmorrhage. The hæmorrhage having been frequent, much prostration following, transfusion was practised; as, however, opium was also given, the cure could not be certainly ascribed to transfusion.

41.—Reported in the *London Medical and Surgical Journal*, Vol. III., p. 588, by Mr. Banner; uterine hæmorrhage; aged 28; miscarriage; hæmorrhage persisted for 10 days; Messrs. Jeffreys and Bickersteth called in; 5 syringe-fulls of blood were transfused; this produced some feeling of oppression; she rallied, however, but sunk again in the course of 12 hours, but finally the rally was more permanent; and under the use of stimulants she completely recovered.

42.—Related by Mr. Walton; secondary hæmorrhage after the operation for phimosis. This case occurred in Bartholomew's Hospital; after the operation he was put to bed, but secondary hæmorrhage supervened: the collapse was so great it was supposed he would not recover; transfusion was then performed; the recovery was rapid and complete.

43.—Reported in the *Medico-Chirurgical Review*, Vol. IX., pp. 26, 613, by Mr. Brigham, (Manchester); uterine hæmorrhage; aged 19. Eighth child; placenta came away immediately, 3 hours after secondary hæmorrhage supervened; 4 hours after collapse complete; 2 oz. then transfused; no change; repeated twice again; then began to rally; 12 to 13 oz. altogether injected; rally and cure complete.

44.—Reported in the *Medico-Chirurgical Review*, p. 614, by Mr. Jewels; uterine hæmorrhage. This case occurred at the Middlesex Infirmary; Mr. Boyle operated; 4 oz. injected in jugular vein; death resulted; the *post-mortem* demonstrated the presence of air in the right cavity of heart.

45.—Reported in *Ryan's Medical Journal*, Vol. II., p. 29, by M. Dieffenbach (first case); Asiatic cholera; aged 27. Collapse complete; pulse quite imperceptible; the blood furnished by a young physician; aged 28; two deep inspirations followed; the eyelids opened and closed quickly; five minutes after, convulsions and groans; in another minute, death; autopsy demonstrated the usual appearances in cholera cases; the transfusion was practised through the right jugular.

46.—Reported in *Ryan's Medical Journal*, Vol. II., p. 29, by M. Dieffenbach (second case); Asiatic cholera; aged 65. Taken ill during night; first seen 8 a.m.; pulse imperceptible; vomiting and purging seldom; eyes sunken, cheeks sallow, tongue cold; no remedy had been used but the warm bath; transfusion practised; the blood was taken from a man, and injected in the left median vein. 1 oz. injected; no change; then 2 oz. more; the respiration became hurried: given mint tea, which she drank with avidity; the left jugular was then opened to allow a larger injection; 1 drachm of warm water was first injected, then 3 oz. of blood; no change was observed; the day passed off quietly; the pulse, however, did not return; she died six hours after the operation.

47.—Reported in *Ryan's Medical Journal*, Vol. II. p. 29, by M. Dieffenbach (third case), Asiatic cholera; aged 61; collapse of cholera well marked; the disease occurring during the night; in this case it was deemed necessary to ascertain if the circulation went on, and the brachial artery was exposed; it was found not pulsating and empty, and containing a coagulum like a thread; the transfusion was immediately performed in the brachial vein, which was found full of black blood; 2¼ oz. were thrown in at thrice; the man complained of no pain except when the artery was laid bare; after the third injection the pulse reappeared in the axillary artery, where it continued for five minutes, beating 60 in a minute; no blood escaped from the opened artery; the iris contracted several times, and the features appeared more animated afterwards; he died at noon, two hours after the operation, which did not appear to exercise any influence on the disease.

48.—Reported in the *Lancet* 1849, Vol. II., by Messrs. Walton and Routh; aged 34; Asiatic cholera; collapse being present, 30 oz. of blood were transfused, taken from a healthy male; he rallied for 36 hours, but sunk again 66 after the operation, from consecutive fever; the *post-mortem* demonstrated caries of the frontal portion of cranium, with an abscess between it and dura mater, and disease of the kidney.

From the above List we conclude—1st, That the operation is one of the safest major operations which may be practised in surgery.

The total number of cases here given are 48; the number of deaths, 18; giving a rate of mortality of 1 in 3—rather less than that of hernia, or about the same as the average of amputations, according to some authors.

A very little consideration, however, of the above Table will satisfy us that this average is too high. In all these 48 examples, it is true, the operation of transfusion was performed, but in some inadequately, and in others where there was no reasonable hope of deriving any benefit from it. In other of the cases, death was certainly due to other causes than the operation.

1°. In cases 5, 6, 12, and 16, the patients *were already dead* when the operation was performed.

2°. In case 8, as will be more especially noted in the sequel, enough blood was not transfused.

3°. In cases 7, 9, 15, 21, and 48, there was other mortal disease present; so that, although at first some benefit resulted from the operation this good effect was but transitory.

4°. In case 44 the operation was unfortunate, air having been inadvertently admitted in the veins.

And lastly, In cases 45, 46, and 67, the same objection applies as in case 8.

Thus, out of these 18 deaths we have only 4 in which death can be reasonably attributed to the transfusion, *i.e.*, out of 34 cases in all we have only 4 deaths, or 1 in 8½.

This result, however, is scarcely correct, though it accords with that obtained by Mr. Peet. This gentleman in a paper read before the University College Medical Society, now unfortunately lost, but an abstract of which appears in the *Lancet*, (1842,) came to the following conclusions. He collected 35 cases where transfusion had been performed. Of this number 13 died—an average mortality of 1 in 2·7. But he also remarked, that this result was incorrect, as among the fatal cases in 3 only could death be referred to a failure of transfusion, giving thus a total of 25 cases, of which 3 only were fatal, or 1 in 8·3.

I do not think, however, that the 4 first cases given in the Table should be included in this average. The accuracy of the record of these may and has been disputed; but, moreover, as the operation in these cases, excepting in the last, was not performed upon diseased persons, the facts only go to prove that transfusion, and that even with the blood of animals of a different species, may sometimes be practised upon comparatively healthy per-

sons with impunity. Excluding, therefore, these 4 cases, we have 30 cases, of which 2 only were fatal, or 1 in 10. This is a highly favourable result; more so, indeed, than that obtained in the other major operations, if we except that in lithotomy, obtained by Saucerot.

TABLE showing the AVERAGE RATE OF MORTALITY in MAJOR OPERATIONS, according to different Observers.

Operation.	Saucerot.		Dr. Inman.		Mr. B. Philips.		M. Roux.		M. Malgaigne.	
	No. of Cases.	Mortality.	No. of Cases.	Mortality.	No. of Cases.	Mortality.	No. of Cases.	Mortality.	No. of Cases.	Mortality.
Lithotomy	1,400	1 in 19	5,900	1 in 7·7	...	...	18	1 in 2·6	...	...
Amputations	...	...	3,586	1 in 3·1	640	1 in 4·2	178	1 in 1·1	838	1 in 2·4
Hernia	...	...	545	1 in 1·2	...	...	52	1 in 1·3	220	1 in 1·6
Ligature of Arteries	...	...	199	1 in 3	...	...	...	...	...	...

2°. In reference to the diseases in which the operation has been performed.

a. In uterine hæmorrhage. The result is very flattering. It was performed in twenty-four such cases. In five the patient did not recover. In one only, however, could the operation be reasonably stated to have failed. In two cases (Nos. 5 and 12) death had already occurred. In one (8) sufficient blood could not be obtained. In another (44) air was accidentally admitted in the vein. In one only the benefit produced was transitory, and it failed (35.)

In four cases the hæmorrhage was secondary, coming on and continuing for some days after delivery. In all these it proved successful. (Cases 13, 34, 41, 43.)

In 2 cases the operation was performed before labour, and in both with a happy result.

b. After surgical operations, transfusion was performed 7 times (6, 20, 21, 28, 32, 36, 42), in 3 cases only proving fatal (6, 20, 21). In 2 of these fatal cases, however, (6 and 21), death is accounted for by other causes (6, 21). In both these cases the operation was performed for secondary hæmorrhage. The absence of a *post-mortem* in case 20, prevents the same conclusion in regard to the cause of death being stated with any degree of certainty.

c. It was twice performed in the state of exhaustion following continued dyspepsia. In one it was fatal, but the *post-mortem* here revealed organic disease, scirrhus of the pylorus. The other case was certainly cured by the operation.

d. It proved successful in one case, under the most unfavourable circumstances. In a case of phthisis, with violent hæmoptisis; and this is the more interesting, as the blood of a *ram* was the fluid used in this case. The quantity, however, transfused, was small, only 6 oz. It is, however, a fact of some interest; the more so, if taken in connexion with the cases 1, 2, and 4, where sheep's and calf's blood were employed; and must be looked upon as an instance of the power of the "*vis medicatrix naturæ*," where a patient got well in spite of the remedies employed, or as confirmatory of Dr. Harwood's experiments, and opposed to those of Drs. Blundell, Dieffenbach, &c.

e. It proved of no avail in one case of hydrophobia, and another of asphyxia.

f. It proved fatal in 3 out of 4 cases of Asiatic cholera. In the 4th it probably exerted a beneficial effect: probably that effect might have been permanent, but for the existence of other organic and mortal disease. In the other 3 cases, the quantity transfused was insufficient. In cholera especially, where the amount of fluid that runs away by the bowels is so great, we should expect *à priori*, that no advantage could be derived by the transfusion of a small quantity; the more so, as in those cases where injection of saline substances has been tried, as much as 100 oz. and 120 oz., and even upwards, have been transfused, with the best effect. This view of the case obtains apparently confirmation, from a simple review of the history of the four cases in which it was tried. Life was prolonged in proportion as the quantity injected was large. In case 45, 1½ oz. only were injected. He died in 6 minutes after the operation. In case 47, 2½ oz. were injected: the patient died 2 hours after the operation. In case 46, 6 oz. were injected: the patient died in 6 hours after the operation. In case 48, 30 oz. were injected, and death resulted in 66 hours. In the two last cases (46 and 48,) in the first, the cholera symptoms did not recur; in the last they were overcome. The injection of larger quantities in cholera derives further confirmation from the following calculations.

3°. As a rule, the quantity injected, where transfusion is practised, should not be under 7 oz.

It is admitted, that a lesser quantity may, and has been successfully transfused. Thus, in seven cases in the above Table, a cure followed under these circumstances:—

In case 22 there were transfused	2 oz.	Mean 3·8 oz. Say 4 oz.
" 23	2	
" 28	5	
" 37	6	
" 38	4	
" 39	4	
" 40	4	

But, on the other hand, where the quantity transfused before any symptoms of rallying took place, is distinctly stated in the above Table, we have the following result:—

In case 10 there were transfused	6 oz.	Mean 7·0 oz.
" 11	6	
" 13	6	
" 17	8	
" 19	5	
" 26	8	
" 28	5	
" 31	12	
" 40	4	

Thus it is, that we explain the failure of the operation in cases 8, 45, 46, and 47, a sufficient quantity not having been transfused. This result is still more certainly brought out by the following Table, where the fatal and successful cases, and the quantities transfused, are opposed for the purpose of making this more evident, arranged in separate columns, beginning with the smallest mean quantity transfused in successful cases, one column being set apart for every additional 4 oz. up to 16. In this table, the 4 first cases, and the 4 cases in which death had already occurred, when the operation was performed, are excluded:—

Under 4 oz.				4 and under 8 oz.				8 oz. and under 12.				12 oz. and under 16.				16 and above.			
Fatal.		Cured.		Fatal.		Cured.		Fatal.		Cured.		Fatal.		Cured.		Fatal.		Cured.	
Case.	Oz.	Case.	Oz.	Case.	Oz.	Case.	Oz.	Case.	Oz.	Case.	Oz.	Case	Oz	Case.	Oz.	Case.	Oz.	Case.	Oz.
8	3½	22	2	7	6	24	4	21	9	11	9	9	12½	10	14	...	...	13	16
45	1½	23	2	44	4	28	5	36	10	14	8	...	...	18	15	20	18	33	16
47	2½	...	...	46	6	30	5	...	...	17	8	...	...	19	12	48	30	31	24
...	...	...	...	...	...	37	6	...	...	27	11	...	...	41	14	...	...	26	21½
...	...	...	...	...	...	38	4	...	...	32	11	...	...	43	12½	...	...	...	...
...	...	...	...	...	...	39	4	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	40	4	...	...	...	...	...	...	...	...	...	...	...	...
3	2·5	2	2	3	5·3	7	4·5	2	9·5	5	9·4	1	12½	5	13·5	2	24	4	20·1
1 death to 0·7 cured.				1 death to 2·3 cured.				1 death to 2·5 cured.				1 death to 5 cured.				1 death to 2 cured.			

from which it appears, that the greatest proportional number of successful cases are those in which a quantity not less than 12 oz., or more than 16 oz., was transfused; the number of successful cases proportionally increasing up to this limit, and then diminishing again, giving a mean of 14 oz., as the quantity to be transfused.

The same result is brought out, though more generally, if we arrange these series of cases in two classes only; the one, where the quantity transfused was under 12 oz., and the other where it exceeded this number:—*i.e.*, we have in the former class 8 deaths, with an average of 5·3 oz. transfused, and 14 recoveries, with an average of 5·9 transfused, or 1 death to 1·7 (or nearly 2) recoveries, and in the latter class we have 3 deaths, with an average quantity 20·1 oz. transfused, and 9 recoveries, with an average 16·5 oz. transfused, or 1 death to 3·2 recoveries.

From which we think it follows, that, as a rule, the quantity transfused should not be less than 6 oz., nor more than 16 oz.

4°. In regard to the age of the patients in which this operation was performed, the data are insufficient in the fatal cases. In the 16 successful cases in which the age is given, the mean age was 34·8. In 3 cases the age was under 30; in 4, under 35; in 5, under 40; and in 3, under 42.

5°. The danger of the operation is certainly not great. Among the successful cases, phlebitis, which *à priori*, we should most fear, occurred in only one case, case 37, where the blood was taken from a *ram*; but even in this case it was easily overcome. In the only 3 cases where we have seen, after transfusion, death followed (cases 20, 35, and 36), the operation could only be said to have failed to cure, but not caused death; and even in one of these, (case 20,) Dr. Blundell expressed an opinion that there was some other latent cause of death.

6°. In regard to those diseases in which this operation might be performed, I think there are many in which, by reason of a mistaken timidity on the part of the practitioner, it has not been practised; and where the probability is, that if the contrary course had been pursued, life might have been spared. Too much hardihood is certainly very blameable, but timidity is scarcely less so. The misfortune is, however, that death might be frequently improperly ascribed to the operation, if it failed, and more especially, as it might be improperly performed. With the state of public feeling, therefore, it can at present only be resorted to in extreme cases. We can, therefore, only speak of it as applicable in those diseases where collapse is present or imminent.

From the Table we learn that out of the 18 cases in which it failed or proved fatal, (in 5,) other organic disease was present. In only 2 cases where there was or had been organic disease, did it prove successful. While, therefore, these figures do not absolutely forbid the employment of transfusion in organic disease, they very much discourage it. Common sense would necessarily contra-indicate its practice, especially in diseases of the lungs or heart.

But, first, in all cases of collapse induced by hæmorrhage, whether primary or secondary, it should always be employed.

Secondly, in that state of extreme exhaustion from dyspepsia, where collapse is imminent, it might be advantageously employed. There are many cases in which dyspepsia has persisted for a long time, and perhaps been neglected, and where, notwithstanding, no organic disease can be detected; in which no food can be retained on the stomach, and the remedies employed are powerless. Here the patient will sink from inanition, if something is not done. In these cases it is highly probable, that were the operation more frequently resorted to, life might often be saved. Dr. Blundell kept a dog alive three weeks, by consecutively transfusing the blood of another dog in his veins. It is true, in this case the animal lost weight, and was evidently thinner at the end of the time; but the operation, once performed in a full and effective way, might enable the patient to rally, so that other remedies might subsequently have effect.

Thirdly. In some cases of stricture of the œso-

phagus, where no food can be taken, to give the patient time to rally, so as to admit the introduction of bougies subsequently.

Fourthly. In the collapse which follows long-continued fevers, more especially those of a typhoid character, produced frequently by supervening diarrhœa, or by the crisis of the disorder. It is exceedingly probable, transfusion here might be most advantageous. In that variety of Irish fever, so fearfully fatal, and where the crisis is marked by excessive perspiration, in the exhaustion that invariably follows, and from which the patient so seldom recovers, it might be successful, giving the patient time to rally; for then the digestive organs are too often too slow and too weak in their operation to act with effect, whereas a sudden change in the quality and richness of the blood would probably save the patient. But even after the crisis, in a more advanced stage of the convalescence, death not unfrequently results, after a continued fever, from progressive weakness, and here transfusion might probably effect a cure.

Fifthly. In the collapse, or great exhaustion, following diarrhœa, dysentery, and cholera, where the use of injections especially would be contra indicated, or useless, it might be, probably, advantageously employed. Among children especially, diarrhœa is a very common cause of death, from the mere exhaustion which it produces, although, it is true, in some of these cases, there may be organic disease, which would neutralize the good effect of transfusion; but even in these cases, sometimes, it might do good, by giving time for subsequent and successful treatment.

The same remarks apply to the exhaustion after sporadic cholera. In many of these cases, fatal syncope is at once induced by the patient raising himself in bed, even after all the active symptoms of the disease have subsided, denoting great weakness, which might be effectually combatted by transfusion.

Lastly. In Asiatic cholera. In the state of collapse, whether by reason of the nervous shock induced or not, we can trace two, at least, efficient causes. 1. Diminished fluidity of the blood, produced by the violent watery purging; but, 2. it would seem, from the non-secretion of urine and bile, that some essential vital principle in the blood (necessary for the stimulation of that part of the nervous centres connected with these organs, or the particular nerves of the organs, or with their secreting cells themselves) is either so removed, or so changed in kind, as no longer to produce this stimulating effect. That it is not always so removed, is proved by the fact, that the transfusion of saline substances has sometimes cured the disease; but that it is frequently so, is also proved by the frequent failures of this mode of treatment. If his view be correct, to restore this principle becomes the first indication in the treatment. We do not know what it is. But the transfusion of blood, which, as blood, does contain this principle, would seem the best calculated to fulfil this indication.

In the four cases of cholera above given in the Table, we have some confirmation of this view. In Cases 45 and 47, the quantity transfused was too small to produce any change. In Case 47, where six ounces were transfused, life was prolonged six hours; and in Case 48, where thirty ounces were transfused, the choleraic symptoms disappeared, bile being secreted, and life prolonged sixty-six hours. It is impossible to ascribe, upon the evidence of one case, these amendments to the transfusion. More experiments are required, but the coincidence is interesting.

The objections of transfusion in Asiatic cholera seem to be twofold. 1°. The difficulty of obtain ing a sufficient quantity of blood. In the cases treated and cured by transfusion of saline substances, as much as 100 to 320 oz., and upwards, were sometimes injected. To inject this quantity of blood would be impossible, but it is probable a smaller quantity of blood would suffice; and if not, the transfusion of blood might be combined with the transfusion of saline substances, the one operation preceding the other.

2°. The second objection is the fear of contagion; but, even here, kind friends will be frequently found willing, at any risk, to save the life of a relative; and here we must depend upon the feelings and affections of others. How far these theoretical suggestions are correct or false, can only be proved by further experiments. The dreadful havoc now produced by the cholera on all sides must be the excuse for their promulgation.

Sixthly. It remains only now to add a few words on the method of performing the operation itself, and I cannot better do so than in quoting the very words of my friend and colleague Mr. Walton, who has kindly furnished me with the following remarks on the subject:—

"The operation may be executed in three ways —1. By receiving the blood in a vessel, and allowing it to enter the body by gravitation. 2. By interposing a tube between the blood-vessels of the emittent and recipient persons, and trusting to the force of the circulation for its transmission. Both these methods have given place to the 3rd or injecting process, which is effected by the stop cock stomach pump; but, instead of the tube through which the pump would be filled, there is a funnel-shaped basin to receive the blood. Much nicety is required in its make.

"So little is the theory of transfusion understood by instrument-makers in general, that instruments are made and sold for the purpose that are wholly inapplicable. Mr. Coxeter furnished me with mine. Mr. Fergusson, of Smithfield, has produced the most perfect one that I have seen. The basin should be cased like a hot plate, that it might contain water. The piston should fit accurately, and at the same time work freely. I think that an interruption, by some elastic material in the tube that is to convey the blood, is advisable, for then the pipe that is inserted into the vein is less likely to be disturbed by any motions which may arise in the working of the syringe or movements of the patient. At least three persons are required for the safe and efficient performance of the operation, and their attention should be wholly given to it. Supposing everything ready, the instrument quite clean, air-tight, and thoroughly warmed, the basin filled with hot water, a vein in the patients arm should be punctured, and the finger applied to the orifice till the tube is ready to be inserted. It is quite unnecessary to dissect out a vein, and place a probe under it before making the puncture, as has been recommended. A vein in the arm, from which the blood is to be taken, is next to be opened by a fine cut, and the stream directed into the centre of the basin, the arm being held close to it. When sufficient has entered, the syringe should be filled, and the piston pushed in a little till blood flows at the end of the pipe, which is then to be introduced into the vein. The injector now works the syringe till the desired quantity has been thrown in. There should be no cessation to the stream of blood entering the basin till the operation is ended, so that, after each occasion of the syringe being filled, there may be at least an ounce of blood at the bottom of the basin, or else air would probably be sucked in. It will be perceived that I have given merely a hasty sketch, but sufficient, I think, to guide those who have no experience in the operation. The accident to guard against is the transmission of air. The greater facility with which this is likely to occur when transfusion is performed through the jugular vein, points out the impropriety of selecting this vein for the operation. It would be worse than useless to attempt to transfuse unless an expert bleeder be procured. Much of the success of the operation depends on the despatch, as well as the steady and uninterrupted course that is pursued; for, with the disadvantage of the blood travelling over dead surfaces, very little exposure of it to air must be apt to destroy vitality.

"The above account has been given, as the subject of transfusion is usually excluded, in works even of Practical Surgery, although much simpler operations are treated in detail. Even Cooper's Dictionary 'is silent on the subject.'

(Signed) "H. HAYNES WALTON, F.R.C.S.

Dorset-square, July 26, 1849.

MEDICAL SCHOOLS AND UNIVERSITY TOWNS OF GERMANY.

By Dr. BUSHNAN.

(Continued from page 72.)

STATE OF MEDICINE IN BAVARIA.

After the full detail given of the medical organization of Prussia, it will be unnecessary to enter at any great length on the state of the profession in Bavaria. Recently many and most important modifications have been introduced. The changes thus introduced have affected materially both the system of study, and the social position of the profession at large. The most recent enactment thereon bears the date of the 19th October, 1843. Pursuing the same plan as in the History of Medicine in Prussia, we commence with the Medical Hierarchy, which is almost exactly on the same footing as in Prussia. The Central Board is attached to the Ministry of the Interior, and consists of a President and four members. It constitutes a court of appeal in cases of medical police, and is charged with the superintendence of a sanitary police and public hygiene. It exercises also a complete control over the appointments of the President and Vice-Presidents of the Courts of Examiners. It discharges its duties only through the responsibility of the Minister; all its decisions passing under the seal of the Minister of the Interior. The correspondence it carries on with inferior medical authorities can only be effected through the medium of the Minister of the Interior.

The District or Provincial Committee, under the direction of the local authorities, is composed of a President, four practising doctors, a chemist, and a veterinary surgeon; it is charged with the general and special management of the sanitary police and public hygiene of the district, and the investigation of the private and professional life of the medical practitioner! This is done annually, and the report forwarded to the chief of the district, by whom it is transmitted to the Minister of the Interior. The tenor of this scrutiny into private life may be best judged from the following heads of the queries constituting the basis of the report:—Name, residence, date and locality of birth; married or single; number of children; religion; notes of university examination; income; character and disposition; knowledge and practical ability; activity; attachment to the Monarch and his august family, and to the actual Government; moral conduct; demeanour towards patients; services rendered to the State; private remarks.

Subordinate to these, and forming the first step in the scale of the Medical Hierarchy, are the Inspectors of Cantons; they receive the name of doctors of the judicial circles. They are entrusted with the enforcement of all the regulations and orders relating to the practice of medicine, pharmacy, and sanitary police; they superintend vaccination, and assist in the tribunals of the Courts of Justice.

MEDICAL STUDIES.

These are pursued at any of the three Universities of Munich, Würzbourg, and Erlangen, and extend to a period of seven years.

The first two years of study are occupied in Chemistry, Botany, Mineralogy, Zoology, and Natural Philosophy.

The three succeeding years are spent in the acquirement of strictly Professional knowledge under the Faculty of Medicine.

The last two years are specially devoted to the practical departments of the Profession in the Hospitals.

On the conclusion of each of those respective periods, the student is subjected to an examination on the topics which have been embraced in the course.

These examinations take place before a Senate nominated for the purpose in each of the Bavarian Universities. The first is called the admission examination, and comprises the studies prosecuted during the first two years; and should the student not be found competent, he is remitted to his studies for six months.

The second examination, denominated the theoretical examination, takes place at the termination of the fifth year of study. In it are embraced all the subjects which properly constitute the theory of medical science. Each candidate is examined for two hours, and, in case he is not found competent, he is required to study an additional year. In certain cases this period may be restricted to six months.

The final examination is chiefly on practical subjects. It is continued for eight days; is partly *viva voce*, partly in writing; and averages about eight hours daily. The questions are all determined by lot, and the answers prepared under the incessant observation of one of the examiners.

When the candidate has satisfied the Commission of Examiners on these different subjects, he is then at liberty to present himself for the degree of doctor. To obtain this the student has to submit a thesis, and to defend it publicly, having among his opponents a professor belonging to the faculty, a doctor, and a candidate. The discussion continues for two hours. On the promotion to the degree of doctor, the senatus academicus and all the professors of the faculty of medicine are present. The President pronounces a brief eulogy on the candidate, who on being declared a licentiate in medicine, repeats the oath of Hippocrates.

AUTHORITY TO PRACTICE MEDICINE.

But the candidate, who has now acquired the degree of Doctor, is not forthwith at liberty to commence practice. In accordance with a regulation passed in 1835, the Government of Bavaria has restricted the number of practitioners in each district. In virtue of this decree, an exact list is to be preserved of all licensed Doctors, and on the decease of any of them, intimation is given to the Government, by whom the situation is filled up. Should there be an excess in the number of expectants, the young aspirant has no alternative but to wait till another death occur, unless he has sufficient influence and character to induce the Government, to create a new appointment for him. When the authority to practise has been once acquired, and the Doctor regularly located, he has full power to officiate in any of the three branches of Medicine, Surgery, or Midwifery.

By a decree passed in 1843, a subordinate class of practitioners, called Bathers, were partially suppressed, and the practice of Medicine, Surgery, and Midwifery, placed solely in the hands of the Physicians who have passed the University Curriculum. This class are still retained, with authority to bleed, to apply leeches, sinapisms, and moxas; to practise as dentists; and to take charge of the sick. They are also allowed to give relief in cases of apoplexy and asphyxia, and to sell diachylon, sugar of lead, ammonia, and nitrate of silver. With this privilege, limited as it is, they nevertheless contrive to make no inconsiderable inroads upon the practice of the regular Physicians.

THE MILITARY MEDICAL CONSTITUTION OF BAVARIA.

The class of Doctors supply the medical men for the army. They officiate, first, as assistants in the Military Hospital of Munich, at a salary of about 40*l.*; and then progressively advance, to the post of Medicine in Chief of the Staff. There is, however, not so much consideration paid to the military surgeons in the secondary Germanic States, as in those kingdoms which possess a large standing army.

MEDICAL ORGANIZATION IN THE KINGDOM OF WURTEMBURG.

In this State, the hierarchy of the medical functionaries is the same as in Prussia.

The Faculty of Medicine of the University of Tubingen confers the honorary degree of Doctor, after a three or four years' course of study. To procure the license to practise, it is requisite to undergo two State-examinations. The candidate has to declare whether he intends to practise Medicine, or Surgery, or both, the examination being modified accordingly. The first examination takes place twice annually at Tubingen, before a Committee formed of the Professors of the Faculty of Medicine there, with a member of the Superior Medical Board of Stuttgard. Prior to admission to this first examination, the candidate must give adequate proof that he is 21 years of age; that he has attended the University Lectures for three or four years,—the Doctor's degree is not essential;—that he has attended, for the period of one year at least, the National University of Tubingen; and that, further, he has not been a member of any University Secret Society.

The second examination takes place at Stuttgard, and bears chiefly on subjects of a practical nature. An interval of a year elapses between the two, during which hospital practice is generally followed.

When the candidates have passed these two examinations, and taken the oath of allegiance, they are permitted to reside and practise their profession wherever they judge proper.

There are also second and third class surgeons in Wurtemberg, whose education is not so extensive as that of the first class medical men. Those of the second class are not permitted to perform any difficult or dangerous operation, and they cannot prescribe without the advice and direction of a physician. The surgeons of the third class undergo a very slight examination, and they are only required to be acquainted with what is called minor surgery. As in all similar circumstances, these persons affect considerably the practice of the more regular Medical men, and thereby are a source of no small degree of bad feeling amongst the members of the Profession.

MEDICAL ORGANIZATION IN THE GRAND DUCHY OF BADEN.

The position of the Profession in this Duchy is almost the same as in the Kingdom of Wurtemberg. The diploma of doctor of medicine is not essential as a preliminary condition to the acquirement of the licence to practise medicine. For this the State examination, conducted by the Committee of Health, is sufficient. The candidate has to appear twice before the examiners; and he is examined on medicine, surgery, or midwifery, —for each of which there is a separate section of examiners—according as he proposes to practise one, or other, or all these branches of the healing art.

The inferior grade of practitioners are not compelled to go through any university course, their knowledge being usually acquired by assisting the higher practitioners. They submit to an examination before the inspector of the locality in which they dwell, and they generally keep barber's shops.

The Grand Duchy of Baden has two universities—the Catholic Fribourg, and the Protestant Heidelberg. The Faculty of Medicine at Heidelberg enjoys, with good reason, a very high name. The course of practical instruction there is very superior. Chelius is professor of surgery; Gmelin professor of medical chemistry; and Tiedemann of physiology.

MEDICAL ORGANIZATION IN THE KINGDOM OF SAXONY.

There are two medical schools in Saxony, the Faculty of Leipzig, and the Medico-Chirurgical Academy of Dresden. In the former the course of instruction is complete; while the latter is chiefly devoted to practical medicine and surgery. In the Faculty of Leipzig the title of doctor is obtained after the University course of study. With this title the doctor acquires the right to practise throughout the whole Kingdom. There is no State examination in Saxony. There is, however, a very strict law in force as regards the distinction between surgeons and physicians, properly so termed. In virtue of it, passed in 1824, a fine of money, or imprisonment, or even temporary suspension from the exercise of his profession, attaches to any surgeon who practises in cases of internal disease.

The medical men educated at the Medico-Chirurgical Academy of Dresden, do not receive the titles of Doctors, and are only at liberty to practise in those localities where there is no regular physician. By a Royal decree of 1824, these practitioners of the second order cannot exercise their profession unless under the control of an inspector, to whom they are obliged to transmit quarterly, tables of their cases, the results, and such remarks as they think necessary to record.

The duration of study at the Medico-Chirurgical Academy is three years for surgeons, and four years for physicians. They are altogether of a practical character, and seem originally to have been intended for students of limited means.

MEDICAL ORGANIZATION OF THE KINGDOM OF HANOVER.

The Committee for the State examination, which has its seat in Hanover, grants the authority to practise. There are the two distinct branches of medicine and surgery; and of the latter there are two classes—a division or distinction which does not meet with general support.

No physician is permitted to establish himself without having previously intimated his purpose to the local authorities, and received permission to do so. Moreover, the number is restricted in all towns with a population of less than 4000.

In Electoral Hesse, and in the Grand Duchy of Hesse Darmstadt, there is little difference in the medical organization from that enforced in Hanover. The same may be said of the Duchies of Weimar, Saxe Coburg, Saxe Meiningen, and Saxe Altenbourg. As these States are small, they contribute to the support of the University of Jena. They are all necessarily deficient in the routine of hospital instruction.

PROGRESS OF MEDICAL SCIENCE.

GERMANY.

THE TOTAL ABSTINENCE QUESTION, AS VIEWED IN GERMANY.

The subject which has received in this country the ludicrous title of the "teetotal question," has excited more or less attention elsewhere; in proportion, on the one hand, to the reflective character of the nation, and, on the other, to the prevalence of those habits against which the movement is chiefly directed. Recently a short paper appeared in a German Journal, the *Vereinte Deutsche Zeitschrift fur die Staats-Arznikundi*; which contains most of the essentials of the question, stated in a very terse, common sense way, and by an unprejudiced observer.

Dr. Metz, some time ago, started the project of a national expression of opinion, by the German Medical Profession, upon the use of brandy,—in which question brandy represents alcoholic fluids generally, —and, from what can be gathered in the Paper before us, the opinion which he proposed for adoption would seem to have been strongly condemnatory and prohibitive.

Dr. Stromberg delivered a discourse on this project before the Union of Hessian Physicians in Darmstadt, which was reported in the Journal above named.

The evil effects of the habit of excessive brandy drinking the Author fully admits; and he notices, with much gratification, the existence of societies, whose object it is to abolish this practice. He states, that no doubt it is the duty of every Medical man, in his own sphere, to encourage, so far as in him lies, this important object of Medical police. But, when the Profession, as a body, are required to give their united Medical testimony, he regards it as absolutely necessary to their evidence making the desired impression, that it should be founded on *facts which are incontrovertible, in every way unexceptionable, and applicable to all circumstances.* When these facts are *not* susceptible of such universal application, they must be proportionally modified.

This fully applies to the statement of the project. The use of brandy, by which we understand, that of all distilled drinks, is *in no way* necessary to the health of man or the upholding of life; but, *on the contrary, hurtful.*"

Now, if this assertion were true unconditionally, and under all circumstances, then we could no longer concur with the wish expressed in a

quent part of the project, that the use of this drink should be placed under wholesome limits. It would rather be the duty of a good Medical police, to close all distilleries, and rigidly prohibit the sale of brandy, as being a *poison*. This statement, however, when made without any limit, without any reference to a moderate use, to individual constitution, to particular localities, cannot at all be sanctioned.

Our peasants, who sustain violent labour on unstimulating food, make use of brandy in the absence of any other exhilarating fluid as a customary drink, as a *dietetic;* and, as daily experience shows, without the least prejudice to their health. Still we will not say, that in the majority of them it is indispensably necessary. Just as little does its moderate use injure soldiers engaged in the fatigues of their profession;—on the contrary, it is useful.

The projected Report also states, "that the often-repeated, and even moderate use of brandy, induces dangerous diseases, and makes recovery from others difficult." Against this the Author adduces the custom of Northern Germany, where liqueurs are introduced into the drawing-room after a meal without either disease or death following them.

Again "total abstinence from brandy contributes greatly to health and prolongation of life."

Now, though certainly there are always possibilities of brandy doing harm, *i.e.*, of its being in some circumstances detrimental to the organism yet this is greatly compensated by the effect of habit —an effect which is seen in the similar manner in which the organism becomes accustomed to other stimulants—coffee, tobacco, opium, &c. As there is no precise state of normal health, so neither is there a perfectly normal diet; and so long as there are a large mass of the poor who are equally devoid of good food, warm clothing, and a warm residence in winter, and so long as brandy forms a kind of succedaneum for these, we have no right to maintain that it should be prohibited.

The Author quotes an English (Edwin Morris) and a German (Wallack) Practitioner who both agree in the greater liability of teetotallers to be affected by the ague poison.

He also quotes another authority, who corroborates his statements concerning the harmlessness of brandy, as drunk by peasants and soldiers. The same authority adds, that the ill effect solely arises from the disproportionate use of brandy, while the proposition that excess is prejudicial, is not limited to brandy, but applies to all food and drink.

Hence, the Author concludes, that the judgment expressed in the project is too roughly and too generally expressed, and is only applicable to a disproportionate use of brandy, relatively to the habitual drink.

He judiciously adds, that the proposition, as thus corrected, is no new statement, even to the laity, and needs no confirmation, or subscription to, by the German Medical Profession. While, on the other hand, the exaggerated and overstretched meaning originally comprehended by the projected Report, would only excite doubts of the real facts, and, by hindering the spread of the temperance cause, would do more harm than good.

He thinks the consultation and discussion of the Profession upon this point of great importance, but doubts the propriety of a local assemblage and decision, or of the result being promulgated in the teeth of a minority, as the *united voice* of the Profession. More real advantages, he thinks, would be derived from numerous separate communications from different practitioners, each contributing the results of his own experience, and thus affording materials for a contrast of the most widely separated districts, and the most various circumstances.

SCOTLAND.

[From our Edinburgh Correspondent.]

We were all here much gratified with the Biographical Memoir, in last Saturday's *Medical Times*, of Dr. John Reid, of St. Andrew's, which, as the first Professional notice of one so well known in Edinburgh, has caused a sensation commensurate with the esteem in which he was universally held. With one voice, we subscribe to the sentiments expressed in the Article. Some ten or twelve of our medical brethren of Edinburgh went on Friday to St. Andrew's to attend his funeral, among whom were three Edinburgh Professors, Dr. Alison, Dr. Simpson, and Dr. Bennett. He was interred in the burying-ground, amidst the ruins of the Cathedral of St. Andrews, at the foot of St. Rule's, one of those ancient structures, towering to upwards of hundred feet, whose origin is lost in the mists of antiquity. High as it is, the little balcony at the top was crowded with as many spectators of both sexes as it could contain. The funeral was attended by the Professors in their robes, headed by their distinguished Principal, Sir David Brewster, by as many students in their gowns as remained at this season in St. Andrews, and by the chief inhabitants of the place, as well as many private friends from a distance. The result of a *post-mortem* examination of the seat of the disease, by which he was so prematurely cut off, will doubtless be made known to the Profession ere long.

Dr. Reid's death raises a question which agitated the University on the demise of the former incumbent, Dr. Briggs. The appointment held by the latter was, the Professorship of Medicine, with the understanding, that he was to teach Anatomy, if a certain number of students offered. It appears that, during the whole of his incumbency, only one student offered for anatomy. Dr. Briggs, accordingly, taught nothing but chemistry down to the time of his death. About that time an endowment, made some time before, to establish a Lectureship on Chemistry became available, and Mr. Conel was appointed. A proposal consequently arose, to convert the Chair of Medicine, held by Dr. Briggs into a Professorship of Natural History, which however, was negatived, and Dr. Reid was appointed Professor of Medicine and Anatomy. And this proposal, it appears, will be revived on the present occasion. The patronage of the Chair lies with the Professors, though it is far from certain that they have the power to change it from a Chair of Medicine, as fixed by Act of Parliament, to a Chair of Natural History. The history of the Chair is easily given. The Duke of Chandos, when Chancellor of the University, in the early part of the last century, gave a sum to institute a Professorship of Oratory; but the Professors of that day, thinking such a Chair unnecessary, petitioned him to apply his gift to found a Professorship of Anatomy. It appears, however, that anatomy was never taught till Dr. Reid's appointment, and even then, not by means of recent subjects, but only so long as the wet parts, which he had stored up at Edinburgh, remained unexhausted. It seems to have been hitherto next to impossible to procure a supply of subjects at St. Andrews. The impossibility now lies in the Anatomy Act; for, under the old practice of body-snatching, it must have been as easy there as elsewhere. Be that as it may. In the middle of the last century, when the two old Colleges were made, by an Act of Parliament, the United Colleges, the Chandos foundation is everywhere described in that Act, not as the Professorship of Anatomy, but as the Professorship of Medicine; or, as Sir David Brewster says, in his evidence before the Medical Reform Committee, there is not a Professorship of Anatomy in the University, but only a Professorship of Medicine. If this Chair be converted into a Chair of Natural History, St. Andrews must give up the practice of granting degrees in Medicine.

Of late, the St. Andrews degree has undoubtedly gained considerable in the esteem of the public. Dr. Reid's character was, in particular, felt to be guarantee that it would not be conferred on the unworthy. It is now a highly respectable degree, though it would be absurd, as a Correspondent of the *Medical Times* did lately, to set it above the Edinburgh degree. The old method of granting it, on the certificate of two known Medical men, was decidedly objectionable, notwithstanding that the declaration of fitness was made on soul and conscience, and that the names of such men as Boerhaave, Baillie, and Abercrombie, are to be found in the list of attesters. Now, the degree is hardly ever conferred on any who do not already hold the diploma of surgeon. It is given only after an examination in regular form by each of five Examiners, in the presence of as many members of the University as choose to attend; and not unfrequently men already possessed of the diploma of the London or Edinburgh College of Surgeons are refused. It is undeniable that St. Andrews desires a continuance of the power to grant degrees for the sake of the profits; but these profits do not go to the examiners, but to the support of the library, the fee of the Examiners being paid by the candidate, whether he passes or not. If the proposed Medical Reform Bill is ever to pass, it does not very clearly appear what is to become of the St. Andrews degree. In its extra-mural Examiners it already possesses a part of the machinery by which that measure proposes degrees to be conferred. But St. Andrews never can become a medical school any more than Oxford or Cambridge. If a larger preliminary education be hereafter made requisite for the medical degree, St. Andrews will afford an excellent and cheap school for that purpose. So far from presenting any appearance of decay, the city itself, small though it be, shows just now the unmistakeable look of a thriving and prosperous place.

The Edinburgh summer session is just over, and some new arrangements begin to be talked of for the approaching winter. The extra-academical medical lecturers are to occupy jointly a newly fitted-up building behind the College of Surgeons, with an entrance from Nicolson-street. The only change in the lecturers spoken of is, that Dr. Richard Mackenzie, a promising young surgeon, is to join Dr. J. A. Robertson in the course of Surgery. Some improvements in the University clinical courses are contemplated.

A recent rupture between the Managers and Resident Medical Officers, or house clerks, of our Infirmary transpired a week or two ago. It had nothing to do with the professional duties of the House, the clerks being at the time, as regards their proper business, very efficient and exemplary in their conduct. The *fracas* commenced between the Matron and the clerks, touching that most important part of the business of life which is transacted daily at the dinner table. The clerks, who are required to board in the establishment, found fault with the meagreness of their fare, and entertained the Matron so freely with their complaints that she at last declined to appear at table. The quarrel still kept smouldering on, fanned by occasional petty annoyances on either side, till, at last, it burst forth in a simultaneous appeal by both parties to the House-Committee. An inquiry is set on foot, and, as might have been anticipated, the Committee is bewildered with the contradictions of the evidence. By-and-bye the Board of Managers come to the rescue, with no better success as regards a clear perception of the real origin of the broil. Then follows the usual allowance of admonitions, denials, counter-statements, and all the confusion worse confounded, that, by the very constitution of human nature, flows forth under such psychological circumstances. The moral of the whole is, that it is idle in the extreme to think of making a clear case out of such elements. The proper course was one which he who runs may read. The past should have been held to clear scores on both sides—"post malam segetem serendum est," so some ancient says. If both parties had been simply exhorted to begin a new leaf, much profitless irritation might have been spared, and the Managers would have sooner obtained the blessing due to peace-makers. The Matron deserves commendation for the spirit in which she seemed resolved to do her part thereafter. She began with advertising for a cook in the newspapers. We trust she has fallen in with a good one; for what avails the raw material of a bill of fare, before the effect of the cook's workmanship appears? Young Medical men living in a hospital can rarely bolt their meals like a ploughboy or a sportsman. Confinement, their occupations, and the air of the place, soon sink the appetite below the level of keen. There all the difference in the world between

pampering the appetite and enticing it, when it flags, by somewhat delicate and well-dressed food; and hospital clerks, especially when there are hard students among them, can hardly thrive but on this kind of fare. The governors of hospitals are very apt to complain that Medical men, and especially young Medical men, are difficult to deal with. It is probably true. But, then, the reason why the governors get into difficulties so often, is, that they take up the wrong idea, on each new occasion of strife, that they are dealing with wayward individuals; whereas, they are dealing with a class, and a class cannot be dealt with judiciously unless pains have been taken to understand their peculiar wants and class-feelings. But it is the business of the governors to study the feelings, prepossessions, and even prejudices, of a class which they can no more dispense with than they can with patients. Until a governor has made some progress in this study, he is but a journeyman in his craft; and if there were more masters in the craft of hospital governor, there would be but few dissensions.

ENGLAND.

ON THE PURGATIVE PROPERTIES OF OIL OF ANDA.

By ALEXANDER URE, Esq., Fellow of the Royal College of Surgeons of England, and Surgeon to the Westminster General Dispensary.

[From the "Pharmaceutical Journal."]

I was requested, some months back, by your Professor of Pharmacy and Chemistry, Mr. Redwood, to investigate the therapeutic properties of an oil expressed from seeds imported from the Brazils, and which seeds are much used by the natives of that country as a cathartic, in doses of from one to three. The plant which yield it is the *Anda Gomesii*, so named after Gomes, who described it, although a previous description had been given by Piso. It belongs to the natural order of Euphorbiaceæ, and to that of Monœcia Monadelphia in the sexual system. In referring to the *American Cyclopædia of Practical Medicine and Surgery* (Vol. I., Philadelphia, 1834) we learn that "the part used in medicine is the fruit, which is about the size of an apple, and of an ash-colour. On removing the external husk a nut is presented to view, which is about two inches in diameter. It has a hard shell, which, on being broken, exhibits two cells, each containing one seed about the size of a chestnut." . . . "By expression these seeds furnish a clear, pale, yellowish oil, which is destitute of taste and almost of smell; at common temperatures as fluid as olive oil." From experiments made in the Pennsylvania Hospital, by Dr. Norris, it appears that in doses of fifty drops it generally induced one evacuation, and in larger quantities operated copiously.

The oil employed by me, kindly supplied by Mr. Ince, of the house of Godfrey and Cooke, had a specific gravity of ·927, and corresponded in sensible properties to the above description. I found, however, a smaller dose suffice to produce a purgative effect than that stated on the authority of Dr. Norris. I believe, indeed, that many purgative remedies in small doses increase the peristaltic motion, and thus insure evacuation, which in larger doses would occasion only colic pains and costiveness. This fact is based on the physiological principle, that slight stimulants are more efficient than those of a violent character in awakening sympathetic action.

I now adduce short abstracts of some cases in which this oil was tried:—

D. H., aged 20 years, came under my care for scrofulous disease of the hand. Had been troubled with constipation of the bowels since infancy; having an alvine discharge, upon an average, once in three days; the evacuations being hard and scybalous. He was directed to take, upon the 11th of October, 1848, twenty drops of the oil of anda every morning on a lump of sugar. On the 18th he informed me that the first dose operated freely as an aperient, the second dose on the following day and the third dose also, but seemed to occasion some nausea. This man was of a marked scrofulous habit, and most probably owed the nausea to some coincident irritability of stomach.

A. H., aged nineteen years, of spare make and sedentary habits, was admitted under me on the 27th of November, 1848, for an eruption on the skin. She complained of headache, uneasiness of the chest; her bowels were so constipated as to be partially unloaded but once in three days; her tongue was white, and she felt feverish. She was ordered saline effervescent draughts and twenty drops of oil of Anda every morning on a piece of sugar. On the 11th of December it was reported that each dose operated thrice. She recovered, and, by taking ten drops for a few successive mornings, succeeded in getting her bowels to act once daily.

R. J., aged thirty years, a powerful muscular man, came under my care on the 24th of January, 1849, for an affection of the urethra. His bowels were habitually costive while resident in London. He was directed to take in the first instance, compound powder of jalap; but, this failing to operate, the oil of Anda was administered instead. After swallowing for three consecutive nights thirty drops as a dose, he obtained a daily evacuation, and needed no further assistance in the way of purgatives.

L. C., aged forty-six years, a female of spare habit of body, subject to piles and to habitual constipation, so that she had rarely a motion within every four days, and while in that condition suffered from severe pain darting from the hip down the leg, procured relief by taking ten drops of the oil at bed time.

A. M., aged twenty-nine years, admitted under my care for mammary abscess. Her bowels were always confined, so that she seldom had any passage except at an interval of eight days. Had taken full doses of castor-oil alternated with compound rhubarb pill, and also a combination of Epsom salts and cream of tartar, without any result. On the 12th of February, 1849, twenty drops of the oil of Anda were prescribed to be taken every night. On the 14th it is reported, that the "doses taken on the 12th and 13th operated seven or eight times each day, without griping, and she felt, generally, better since. The bowels of an infant she was suckling were likewise freely moved, and the stools were green." She was then directed to take fifteen drops which served to insure adequate alvine discharge.

It may be observed, that the average dose of oil of Anda administered was twenty drops, and to secure its entrance into the stomach it was swallowed on sugar. It offered nothing unpleasant to the taste, produced none of that heat in the throat which croton oil creates, seldom occasioned nausea or griping; it rarely operated within a period of two hours, although in one or two instances I have known it act within half-an hour after its ingestion

Towards the maintenance of health it may be laid down as an essential condition, that the *effete* remains of food, and of the spent tissues and secretions present in the alimentary canal, should be evacuated at periodical intervals. Human fæces, of which these may be said to form the aggregate, exhibit all the signs of putrefying matter; they have a putrid smell, and animalcules of the *infusoria* class are developed in them. Hence it may be readily supposed, that if the fæcal excrementitious matter, averaging five ounces daily, be allowed to accumulate and remain for an undue length of time in the body, it must become a source of noisomeness and disease. It is, indeed, well known that some persons, who have passed several days without being thus relieved, exhale a stercoraceous odour. One of the worst forms of putrid fever I ever witnessed, and which eventually proved fatal, distinctly emanated from this cause.* Everybody is familiar with the nuisance created by cesspools when vent is not given to their fetid contents; and does it not seem strange that individuals of moderate intelligence should, from want of a little attention, actually carry for days within them a nucleus of pollution, a cesspool in miniature? It is to inhabitants of populous towns, who lead a sedentary life, and are much confined within doors, that the above remarks especially apply; and without more than strenuously urging here the paramount importance of air, exercise, and diet, in obviating costiveness, I have briefly directed the notice of the Society to a medicinal agent not heretofore employed in this country, and which may be found serviceable in promoting the above purpose.

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ERRATA.—*In our last, page 91, in the Table of Mortality in the Metropolis, the amount of "Births over Deaths" for the week ending February 17, should have been 272, not 227, as erroneously printed.—In the Memoir of Dr. John Reid, in our last Number, two rather important typographical errors occur. In the first paragraph, 8th line, "philanthropic" should be "philosophical;" and, in the second paragraph, line 7, read "disease" for "dream."*

THE MEDICAL TIMES.

SATURDAY, AUGUST 11, 1849.

We presume there are few of our readers but have seen, with feelings of mingled shame and contempt,—the shame for the Profession, the contempt for their writers,—those numerous letters which daily and hourly parade a new and certain cure for CHOLERA in the columns of the general Newspaper Press.

Absurd and vicious as the system of a non-Medical Board of Health obviously is, still, after all, we may in fairness concede to these authorities the diagnostic skill generally required to discriminate between the living and the dead. And when we find by their published returns, that, beginning with a few scattered but intensely fatal cases,—the heavy drops of the coming storm,—the mortality from this awful scourge of modern times has gradually crept up to its hundreds daily; and when we also find, that, on the whole, amid all possible variety of treatment, the disease offers a fearfully high and rather constant rate of mortality, we can hardly help believing that we have here a very grave disorder, which is, in a large number of cases, and, at the ordinary date at which medical advice is called in, necessarily and inevitably fatal.

Yet, on the other hand, we have almost equal grounds for asserting, that the authorities are deceiving a too confiding public—that it is quite impossible these deaths can have happened, and quite absurd for us to bewail the little efficacy of our art; since or scarcely a day has elapsed without the publication of one, two, three, or more new methods by which the disease may be cured. Why, indeed, do we talk potentially! Rather say, by which the disease *has been* cured.

By each of these methods, the previously dying sufferer has been safely and quickly restored to his wonted health; and it is equally gratifying to observe, that each of them is cer-

tified to by men whom we are forced to believe as honourable as Brutus himself—men whose natural and professional anxiety to save life has no doubt mainly induced them to take the earliest and widest opportunity of acquainting their fellow-creatures with a glorious panacea.

Nor can a captious public complain that the method proposed is arbitrary or inaccessible. So numerous are the remedies, that it is not so much difficult to obtain them as impossible to avoid them. It is scarcely possible to eat, drink, or sleep—to fulfil any function, or pursue any avocation in life, without impinging on one of the cures for cholera. Brandy and beans, catechu, cajeput, camphor, cayenne, chloroform and calomel, opium and olive oil, salt and salts of all kinds, stimulants, sudorifics, *et omne quod exit in-ic*, hot water, cold water, tepid water, rice water, iced water, spring water, and sea water; all of these are alike efficacious. We have for this statement the solemn testimony of men who are morally responsible for the accuracy of what they have written.

Yet cholera continues to rage—death hourly to grasp new victims! But that these subjects are in this country properly removed from the domain of jest, we might justifiably parody the French wit who found himself dying "of ever so many good symptoms" detected by his physicians, and complain that we are dying of too many and too easy cures.

So many are they, that they defy even enumeration, and the only method we can suggest to their enlightened authors is, to collect them into a large book, to be entitled "The Thousand-and-One Cures," in which, whether arranged alphabetically or not, they might at least each receive a separate heading. Indeed, to keep up the analogy to its Arabian prototype, whose bold imagery and flights of fancy this book would far excel, it would be proper to precede each of them by a solemn and reiterated invocation to QUACKERY, the modern Schehezerade that narrates those pleasing but fabulous stories. Choice, by its consultants, would be difficult, it is true; but the *Sortes Virgilianæ* might be revived to determine, not so much the nature, as the mode, of the disciples' fate.

But enough of this. It only remains to us, as one of the organs of the Medical Profession, to disclaim all share of that Profession generally in these unworthy publications; which are, indeed, without excuse. While death, under the guidance of inscrutable Providence, is destroying his hundreds and thousands, the most exuberant Professional enthusiasm can scarcely be at a loss for occupation in the path of duty. And if observation and experiment lead such an one to any new deductions concerning the nature of the disease, or any new suggestion as regards its treatment, his course is still unmistakeable—*to submit his views to the judgment, and for the acceptance of, his Professional brethren.*

Not so the professional harpy: he snuffs his prey from afar, produces his panacea, hunts up his corroborative cases; and while, with a really judicious caution, he declines appealing to his own Profession, he, at the same time, strains every nerve to extort from an alarmed public a reputation which common sense and calmer reflection would induce even them to deny.

But it may be, that there are some of these pseudo-professional authors who have so far purer motives, in that they are more foolish and less knavish than the character depicted above. To these we would point out, more in sorrow than in anger, the grave dereliction of duty of which they are guilty, in aiding these heartless and selfish schemers by their sanction and imitation. Nor can they shield themselves under the notion, that it becomes a duty to publish what they, however mistakenly, imagine to be a cure for this dreadful disease. Do they allow the least possibility of their being in error? Then, why do they eschew the only authority competent to criticise their theory and test their facts? Do they honestly believe in the virtues of their panacea? Then, who would most rapidly diffuse it; the general public, who naturally avoid a doubtfully contagious disease, or their own brethren, daily and hourly among the sufferers? Or, can it be possible, that they wish the public to be their own medical advisers in a disease like cholera?—that they desire the wife, agonized by the thought of approaching bereavement, to judge of their medical logic, or expect the patient sinking under collapse to apply their treatment?

It is almost waste of words to add, that this multiplicity of so-called specifics has further and most mischievous practical tendencies. It converts the ignorance of the many into presumption; it changes decision and promptitude in applying for advice into hesitation and procrastination, and often converts the credulous reader into a confirmed sceptic. Fatal as the disease is, still, in all human probability, it has its set time, during which medicine can effect the best results, up to which delays are dangerous,—beyond which they are fatal.

Were there no other reason, indeed, we should advise one and all, "*stare per vias antiquas.*" It has always been understood, that to justify a Newspaper appeal to the public, requires a commanding professional position, such as no one man possesses in these days,—a simplicity of remedies advised, and in general an inculcation of prophylactics, rather than of treatment. Radcliffe, or Mead, might, in the then state of society, have justifiably thus written; or, in the present day, in a colony where medical advice could not be personally afforded, a similar privilege might be conceded. One would thus excuse a little dogmatism in the medical correspondent of the "Swamp Town Gazette."

This leads us to the close of our remarks. We have but to add, that it is much to be regretted, that, by a mischievous laxity, the general Daily Press should have even unintentionally aided in giving these adventurers the notoriety they so much desire. The contrast between the excellent writing, the admirable management, and the magnificent staff of a paper like the *Times*, and the inane productions thus admitted to its columns, would be ludicrous, were it not melancholy. *Cuique suâ arte credendum*, and we can assure our giant brother, that he would confer a benefit alike on the public and the Profession, by either withholding these publications, or, with his own grim and significant humour, heading them with the word "ADVERTISEMENT." Indeed, we take some credit to ourselves for throwing out this peaceable suggestion, which may reconcile all parties at a trifling expense, and which no quack of proper "Manhood" would refuse to bear. But if this adjustment be declined, we cannot help expressing a wish to see some of these letters in all the glory of their original spelling and punctuation, since we suspect that it might greatly assist in the enlightenment of the public as to their real nature and value.

PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION.

IN another part of our paper, our readers will find as full a report as our limits will permit of the proceedings of the meeting of this Association, held last week, at Worcester. It was one of peculiar interest on many accounts. It is always delightful to meet old friends,—to talk over old times,—to recal *Alma Mater* and the "joys of the days that are gone,"—almost equally so, to meet for the first time those whose names have been made familiar by their writings,—to compare the man of action with the man of thought, and probably commence an acquaintance, which similarity of tastes and pursuits may ripen into a friendship equally pleasant and profitable to both. Collision sharpens the intellect as attrition polishes the diamond; and the benefit resulting to men, debarred for the greater part of the year by their position and employment from extensive professional intercourse, by these periodical gatherings is incalculable. Lord Bacon says, reading makes a full man, writing an exact man, and conversation a ready man. The public conversation of which the speeches at these meetings consists, is that of all others most calculated to try a man's fullness, exactness, and readiness, and stimulate him to supply any deficiency experience teaches him to feel before subsequent meetings. But this is not all. Good fellowship and good feeling are the result of the two or three days' annual holiday. The mind is released from its cares and the heart opens at the voice of friendship. Little matters of unpleasantness are explained and forgotten; the social morality of the Profession is supported; ignorant pretenders and irregular practices are exposed; and the upright, honourable man finds a reward for honest conduct in that esteem of his associated brethren which may not have been awarded by others. There is also some direct interest in these meetings to those who regard the *fee* as the *summum bonum* to which science is subordinate. Medical men from different watering-places meet, and make reciprocal offers of introduction to patients going from one to the other. The London Professor of some speciality meets his provincial brethren of more general habits, makes known minute proficiency, and probably obtains an increase of practice and its rewards.

To descend from generalities to particulars, we have only to say, that the Worcester meeting was a most delightful one. The cathedral, the battle-field, the china works, and other objects of local interest, amply sufficed to employ

vacant time. The medical men were most hospitable, gave capital dinners to as many as their houses would hold, and offered every possible attention to others. The inns are the good substantial inns of old English towns, and the public feasts were all that could be desired. Then, at seven miles distance was Malvern, with its splendid mountain scenery, and the views of the vales of Hereford and Gloucester; and many a grave Doctor might have been seen last week astride upon the humble donkey, breathing the bracing air of the hill-top, forgetful, for the time, of crowded cities and harassing cares, in the enjoyment of Nature's beauties. The less straight-laced visited the water-cure establishments of Drs. Gully and Wilson, content to gain information likely to be useful to their patients from any source, and were received with cheerful attention, every process being exhibited and explained. But some would not even indirectly appear to countenance irregular practice, and returned to their more genial companions at Worcester.

We have but little to say of the papers and speakers. *The* speeches of the meeting were those of Dr. Hastings, Dr. Conolly, and Mr. Newnham. Dr. Hastings is quite a model Chairman. Dr. Cowan also proved himself to be a ready speaker. The most important papers were those of Dr. Bell and Dr. Sibson, and incomparably the most entertaining that of Dr. Malden, which concealed a vast amount of important information under a humorous mask of the most diverting anecdote. Dr. Bell's paper was unexceptionably good, and we heard but one opinion expressed as to the excellence both of his manner and matter. Dr. Sibson's manner was also very pleasing. He is an excellent and interesting lecturer in point of style; but we, in common with many others, were of opinion, that, when his paper is published and exposed to careful examination, many of his views will appear unsound, and his physiological doctrines far from unobjectionable. This, however, is matter of opinion; and we now beg leave to refer our readers to the report of the meeting, recommending such of them as are able, on future occasions, to be present at similar meetings, by no means to neglect the opportunity of reaping the pleasure and advantage which may be within their reach.

UNIVERSITY COLLEGE CHAIR OF PATHOLOGY.

THE Council of University College have appointed Dr. William Jenner to be Professor of Pathological Anatomy in the place of Dr. Walshe. We do not think a better man could be found to fill that honourable post. Dr. Jenner is already most favourably known to the Profession by a series of very able papers on Continued Fever, which, we have reason to know, have attracted the attention and have received the commendation, not only of many of the most eminent of our own countrymen, but also of the two men who are, perhaps, in all Europe, the best fitted to pronounce an opinion on this subject, viz., Louis and Valleix. So valuable did we, indeed, deem these papers to be, and so much knowledge of the intricate subject of which they treated did they evince, that, some time ago, we induced Dr. Jenner to contribute to this Journal a succession of Articles, which might exhibit to our readers the present state of medical inquiry into the great subject of Fever, and we have the pleasure of being able to state, that we shall speedily commence the publication of those valuable Papers. We have, therefore, a right to congratulate the Council of University College on the choice which has been made, and to anticipate that the enrolment of a zealous and laborious observer, like Dr. Jenner, among the distinguished Professors of that great Medical School, will be followed by results which will be gratifying to all friends of the Institution.

A BOARD OF GUARDIANS' ESTIMATE OF PROFESSIONAL SERVICES.

IN the reign of Claudius, a Governor of one of the Roman provinces exercised his authority in such an oppressive manner that the people sent complaints against him to the Emperor. His flatterers, however, were so noisy in his presence that he was unable to hear what the ambassadors had to say, and, upon inquiring, he was told, by one of the Governor's friends, that they returned thanks for his good administration, upon which the Emperor said, "Let him be continued two years longer in his province." The complaints of Poor-law Medical Officers against the Guardians of Unions, have been repeatedly carried to the Legislature of this country, yet their statements have hitherto been disregarded, and the Union Governors are permitted to exercise their authority in all its original integrity. It is not because they have been falsely accused, that they are retained in power, but simply for the reason, that their policy towards their Medical Officers is supposed to be productive of a great saving in parochial expenditure. The absurdity, the injustice, and the cruelty of this doctrine have been so repeatedly exposed and denounced that we are astonished it should now be credited by any thoughtful persons.

The competition existing amongst the members of the Profession is turned to account by Poor-law Guardians, who, instead of allowing their Medical Officers a fair salary for their services, offer sums which cannot possibly remunerate them. If, under ordinary circumstances, the pay of Union Medical Officers bears no just proportion to the duties required of them, how must it be in seasons when a large amount of sickness prevails amongst the poor? It is true, that, in some districts where the cholera has recently made its appearance, Guardians, with an astonishing liberality, have either strengthened the Poor-law Medical Staff, or have allowed so much extra in every cholera case. This is an act of humanity, and of justice to the poor; and yet there are districts where this spirit of liberality has not been developed.

In the *Times* of Saturday last, a letter is published from Mr. J. T. Mitchell, of Kennington, in which he states, that, during the week ending July 31, he and his two assistants had been summoned to 322 cases of illness among the poor, requiring 1,028 attendances to be given at their own houses, or at his surgery. Fifty of these cases were Asiatic cholera in its different stages, and 141 were cases of diarrhœa and ordinary cholera. For this duty the salary amounts to 100*l*. per annum, which is not quite *three halfpence* for the medicines required by each case, without taking into the account personal attendance. Such an enormous amount of duty kept Mr. Mitchell employed night and day. Nearly every night he was summoned from his bed to attend from three to six cholera patients; and we cannot wonder that he felt his strength give way under the load of Professional engagements. One of his assistants threw up his situation, and another could not be found to occupy his place. The Board of Guardians was accordingly memorialized, and Mr. Mitchell suggested, that all the Medical men of the district whose services were available, should be applied to for assistance; at the same time he proposed, that he should receive 10s. for every case of cholera, not taking into account cases of simple diarrhœa. To this equitable proposition, the Lambeth Board of Guardians paid no attention, and Mr. Mitchell, in consequence, sent in his resignation, which was accepted. He had been the Medical Officer of the parish for eighteen years. *Three halfpence* per cholera case, whether occurring night or day, what a *remuneration!* For this sum there was a large amount of labour to be endured, medicines to be found, and risks to be incurred. Yet, when the Lambeth Board of Guardians is asked for assistance, it is refused, and an old and esteemed Medical Officer allowed to resign his situation if he does not choose to submit to the will of his official masters. We commend Mr. Mitchell for the act of justice which he has done to himself in giving up parochial engagement, and for having made his case known to the public through the medium of the daily *Times*. We hope his Professional brethren will be ready to support him, and that none will be found to undertake the attendance of cholera patients for three halfpence per head. It is time that the laws relating to the Medical relief of the poor receive some alteration. Why should not the Union Surgeon hold his situation as long as he faithfully discharges his duty, and why should he not be fairly remunerated? In the Army and Navy, competition is not allowed to depreciate salaries. These are fixed by the Government, and even a provision made for superannuated Medical Officers. If full justice is to be done to the sick poor, some such system must be adopted in appointing their Surgeons. At least their office should be permanent, and under Government control; their salaries fixed and liberal. The pauper would then have the best security given him of efficient attendance in illness, while those obstacles which now exist to the full exercise of Professional benevolence and skill would be removed.

CHOLERA AND THE ST. PANCRAS GUARDIANS.

ALTHOUGH we should be unwilling to add to the fears of the public, we cannot be blind to the fact, that the progress of cholera in the metropolis during the present epidemic has bidden defiance to the calculations of those best acquainted with its ordinary course. However this may be, the number of deaths weekly is sufficient even now to create just alarm; and, seeing the slight service that remedial agents

have as yet been in checking the mortality, it behoves us to look more closely to prophylactics.

Our attention has been most forcibly directed to this subject, during the last twenty-four hours, by a notice posted on the workhouse of one of the largest parishes in London, that of St. Pancras.

This notice is to the effect, that bodies of persons dead from cholera shall not be admitted into the dead-house of the parish Infirmary. Can such things be, and not excite our special wonder? The Board believe, or act as if they believed, cholera to be contagious—violently so. Its members are no modified contagionists! None dying or dead from the fearful malady shall enter the precincts of the poor-house! They will have naught to do with the unclean thing! This extraordinary dread could only be equalled by the superstitious terrors of the vulgar respecting the leprosy of previous ages, when, we are credibly informed by historians, actions were brought to revenge the contaminations of a relation's corpse in the burial-ground.

In the able Report of Dr. Parkes to the Board of Health, which we reviewed a fortnight since, we were informed, that, at the present moment, all classes of Medical men, (the Gwydyr House Board having retracted its first assertion), are agreed that cholera patients may, and do, give off from their person a something, which, *when it meets with certain external conditions*, may be developed into a poison, capable of inducing cholera in an apparently healthy person. We know, when tolerably diluted, that this poison is practically innocuous: that there is no danger in approaching those labouring under the disease, when the external conditions under which they are placed are favourable—when their houses are drained, their walls and floors cleaned, and free ventilation maintained. But we also know, that, if such be not the conditions in which the patient is placed, fearful may be the spread of the pestilence. Now, what must be the effect of this order of the Board of Guardians? Within the boundaries of the parish over the poor of which they rule, are hovels called dwelling-houses, the stench from which would overpower those not inured to the odours of these *homes*. We lately visited one court in St. Pancras—a specimen of many—in which were seventeen wretched abodes of disease. Fever had visited the inmates. The cottages consisted of two rooms, each about nine feet square. Adjacent to a door opening from one of these rooms was a privy; and under the centre of the huts the drain passed, we were informed, to a cesspool. A drain had burst the floor of one room, in which the people ate, drank, and slept. One of the poor creatures informed us she had but to press the boards to see the filth gush from between the crevices; and that in the night she had at times to leave her bed to inhale from an open window a little somewhat fresher air. We say *somewhat* fresher air; for, in the centre of the court was a large common dust-hole, into which the filth from the closet and drains of the houses just referred to had been poured the day or two preceding our visit, to develope the breath of the pestilence, and to scatter the seeds of death. And here, where every condition favourable, according to the view of the most modified contagionist, for the propagation of cholera poison exists—where are dirt, close crowding, imperfect ventilation and drainage, which it would be a farce to describe as simply imperfect,—where poverty and anxiety have depressed the spirits,—where want has weakened the body,—and perhaps vice has broken down yet another barrier, to favour the inroads of the plague,—here would this sage Board closet the dead with the living. Into these pestilential dens would they bid their Medical Officers enter, to cure, forsooth, their wretched inmates. Let the inhabitants of St. Pancras be up and doing. A notice here and there in a few shop-windows will not remove the disease. It is a subject respecting which they have no time to lose;—a week, a day, an hour may be too late. It is a HOME QUESTION; from these *foci* the disease must spread in every direction, and rich men who dwell in painted palaces are equally interested with these poor wretches who exist in such damp and dismal kitchens, but yet cling to life.

It is a farce for the Board to say they are willing to remove the dead to the churchyard at once. A man dies in the afternoon; must the death-diffusing corpse lie with the living, often six or eight in one room, till the following day? Moreover, we all know how strong is the prejudice against instant interment; it is in vain to say, notice *ought* to be given, and the corpse *ought* to be buried instantly. The husband who left his wife well in the morning, and finds her dead on his return at noon, will scarcely beg that she may be interred that night; the mother who can hardly believe that the infant she saw playing around her knees, literally but a few hours since, is dead, will not consent that ere its tiny limbs are cold they shall be thrust into the pauper's grave. The pestilence must spread far wider among us before the feelings which foster these prejudices will be deadened. We cannot instantly break through old habits. We must bend to them. People are dying in these wretched rooms; their friends will not consent to their instant burial; if, then, these parish Boards be allowed uncontrolled sway, they will, in the plenitude of their ignorance, aid the rapid diffusion of this pestilence, to a fearful extent, over our mighty metropolis.

This city has had warning. We cannot say, as a gentleman, who dwelt in a town not long since decimated by cholera, told us, "it came upon us like a thunder-clap, we had no time to *think* what we should do." Whether the warning shall be of service lies with the people at large, for Boards and Commissioners seem mad or asleep.

Quem Deus vult perdere prius dementat.

THE NATIONAL INSTITUTE.

The Third Annual General Meeting of this body was held at the Hanover-square Rooms, on Wednesday last, the 8th inst., N. Clifton, Esq., in the chair. The Chairman, having briefly stated the objects of the Institute, and the causes leading to them, Mr. Ross, the Secretary, read the Report. This was a well drawn up and valuable document, a calm statement of the case as between the Council of the Royal College of Surgeons and the General Practitioners, detailing the proceedings of the Council of the Institute during the past Session of Parliament in reference to the promised Bill for the regulation of the Medical Profession, the Conferences with the Lord Advocate, the conduct of the Council and Delegates of the Royal College of Surgeons in delaying the settlement of the matters in dispute, and the causes leading to the postponement of the Bill of the Lord Advocate till next Session. In reference to the particular object before the Council of the National Institute, the Report states:—"The Council desires to assist in establishing a College of General Practitioners, with full power to test the qualifications of the Candidates for its Letters Testimonial, in all branches of General practice: any power less than this would not suffice for the object intended, and would not enable the Council to maintain the qualification for General practice at that high standard which alone could secure the respectability and status of their class, and render the General Practitioner competent to fulfil his various and important duties with credit and success."

The various resolutions were moved and seconded by the following gentlemen:—Messrs. Jas. Self, J. Bowling, Thomas Martin, of Reigate, J. Propert, Jas. Clayton, Robert Tanner, George Robins, Richard Wallace, — Nicholson, G. J. Squibb, and H. P. Fuller; the last resolution suspended the election of Officers and Council during the ensuing year, in order to retain the services of gentlemen who had been so active in the cause of the Institute, and so thoroughly acquainted with all the circumstances in which it is placed.

Next week we shall return to the subject.

THE OPERATIVE SURGERY OF JOHANN FRIEDRICH DIEFFENBACH.

Edited by Dr. BUSHNAN and Mr. URE.

The suggestions of several esteemed friends, and the marked satisfaction with which this Edition of Dieffenbach's Surgery has been received by the Profession, have induced me to depart, in some degree, from the plan with which I commenced it. I propose, then, to render the Work still more complete and acceptable, by the co-operation of a practical Surgeon—of one not only deeply read in the literature of his science, but ably practised in the manipulations of his art. The services of such I have happily secured; and for the future the Work will be published under the joint Editorship of myself and Mr. URE, of Bloomsbury-square, Fellow of the Royal College of Surgeons of England, and Surgeon to the Westminster General Dispensary.—J. S. B.

(Continued from page 96.)

CHAPTER II.

SUTURES.

Sutura Vulnerum Cruenta.

Suture is the method of uniting wounds by means of stitches. It is applicable to all cleft wounds of the skin and subjacent parts, of which the edges cannot be kept in intimate contact and healed by means of adhesive plaster and a roller, especially to those of the face, eyelids, nose, ears, mouth, and cheeks; to extensive longitudinal and oblique gashes of the trunk and extremities; to penetrating wounds of the trachea, thorax, and abdomen; and to congenital or accidental fissures of the eyelids, mouth, or perineum, covered with epithelium. It is the only mode of union in wounds, or solutions of continuity in moist surfaces invested with serous or mucous membrane, as in lesions of the tongue, congenital clefts of the palate, wounds of the windpipe, penetrating wounds of the chest and abdomen, of

the bowels, in recent and old fissures or openings in and upon the female and male parts of generation which communicate with the bladder or urethra. Its employment is contra indicated by the presence of acute inflammation, or of suppuration in the wounded surface.

Sutures occasionally derive their name from the situation in which they are inserted; as, for example, the hair-lip suture, palatal suture, intestinal suture, perineal suture, the vesico-vaginal suture, and so forth.

Of the varieties of sutures introduced into surgery, three only deserve notice. Each has its value, and cannot, or only under particular circumstances, supersede the other. They are as follows :—

1. The interrupted, or knotted suture.
2. The twisted suture.
3. The subcutaneous suture.

The two first lie half within, half without the wound; the third is completely hidden beneath the integument.

I. THE INTERRUPTED, OR KNOTTED SUTURE.

Sutura Nodosa.

This is executed by the help of a double-edged needle, curved on the flat, and a waxed double silk thread. The wound is to be previously cleansed of blood by allowing water to trickle from a sponge, all bleeding arteries having been first secured by ligature or torsion. The surgeon then taking the needle in his right hand, with the thumb upon the middle of the concave surface, the fore and middle fingers upon the convex surface, and the thread thrown over the back of the hand, makes a stitch one, two, three, or four lines distant from the margin, according as the wound is large and deep, or small and superficial, from without inwards through the skin, commencing at the left end first; carrying the needle onwards, he makes a second stitch, corresponding to the former, from within outwards. He then, after tying the knot, cuts off the ends of the thread. The adjustment of the first and second knots is accomplished with the forefingers, while the ends are held with the closed hand. Firm pressure is then exercised with a sponge upon the wound to squeeze out any oozing blood; and the remaining sutures inserted at suitable intervals, both edges of the wound being pierced at one stroke. Any ligatures that may be present are to be placed at the angles. Lastly, long narrow *slips* of plaster are to be applied betwixt every two sutures, one always upon the edges of the wound.

For the coaptation of small superficial wounds in the skin, thin needles and thread are eligible. Where the skin is very delicate, as in the eyelids, the point selected for the insertion of the suture is to be taken up with fine hooked forceps, and the needle in that manner pushed through. Care must be had to guard against any spasmodic inversion of the lid. Should this happen, it is to be retracted with forceps, and the raw edges are to be steadily pressed together with the finger and sponge.

Large deep wounds must be stitched with stronger needles and several layers of thread, the punctures made at least half an inch to the side, and the base of the wound, when it cannot be approximated with the skin, perforated, and included in the suture. Otherwise, a cavity is left, in which blood accumulates. It is a matter of indifference whether the first sutures are inserted at the angles, or at the middle of the wound; the last, however, is preferable. The sutures must not be too far apart, so as to allow the edges to gape; or, on the other hand, too closely crowded together, lest they induce inflammation, and thus prevent healing by the first intention.

In introducing sutures into cavities or fissures, where it is impossible to use the fingers to draw through the needle, recourse must be had to the so-called *porte-aiguille*, or to forceps of different size and length, with very short blades and long handles, as, for example, in wounds of the tongue, vesico-vaginal fistula. The most convenient form is that resembling a dentist's forceps, for the extraction of the superior incisors. The needles for stitching within cavities must have a considerable bend in the middle. Instead of the *porte-aiguille*, hafted needles are sometimes employed.

It was stated above, that in the intervals of the sutures, long, narrow strips of plaster were to be laid upon the lips of the wound, and made to adhere firmly to the skin. Where the latter is delicate, the plaster may be spread upon fine linen, but if the wound be large, on strong unbleached linen or calico. In applying the strips of plaster, the parts ought to be tightly pressed together, and short ends laid upon the interspaces. To counteract pressure upon the knots, two strips are to be placed parallel to the lips of the wound, crossing the others at right angles, in order to elevate the sides. It was formerly the practice to leave portions of the wound exposed to the air, and to use few adhesive strips, but the subcutaneous operations have shown that suppuration is especially prevented by exclusion of air. Tying with slip knots is not advisable, neither tightening the thread in case of slackness, nor unloosing it in case of inflammation. The suture must be left untouched. In minute cuts of the face, as in the eyelids, no plaster should be applied.

The first condition in furthering primary union, preventing the threads from dividing the skin, and the accession of suppuration, is complete repose of the part. Compresses and rollers cause heat and pressure, and disturb the healing process as surely as cold applications, when the integument is lax and flabby.

The first threads are commonly withdrawn upon the third, the last upon the fourth or fifth day. The strips of plaster are not to be meddled with, for otherwise the wound may gape, and fresh strips do not brace like the former, glued, in a manner, to the skin with blood. The short end of the thread is to be seized with forceps, a slight to-and-fro movement made to detach the circle, and then with the blade of a scissors, introduced close to the knot, the suture severed, and withdrawn in the line of the wound. Additional strips of plaster are finally interposed betwixt the others.

Where, owing to the number of sutures, the lips of the wound become much inflamed, very turgid, and red, early removal of one or two here and there is indicated, so as to lessen the amount of extraneous matter in the wound. A flow of blood from the punctures is beneficial in warding off the risk of suppuration. This ought to be encouraged by dabbing with little bits of sponge, soaked in warm water, held in forceps. No moisture should be applied beyond. The wound may be covered up after the hæmorrhage has ceased. If suppuration sets in, the sutures lose hold, begin to cut, and gradually draw the lips of the wound obliquely asunder; hence, instead of promoting union, they leave behind unseemly scars. Under such circumstances, they must immediately be taken out, except in parts where the wound is healed from below. Into the gaping and suppurating aperture a little picked lint is to be laid, and all further divergence of the margins checked by strips of plaster. When the discharge of pus is abated, and the chasm materially contracted, the edges may be more closely approximated. Even with wounds, which have healed by the first intention, it is prudent to allow the plasters to remain until the textures are consolidated, else the surfaces get drawn apart, and assume the appearance characteristic of repair by the process of granulation.

II. THE TWISTED SUTURE.

Sutura Circumvoluta.

This implies the perforation of the edges of a wound with needles, and intwisting of the same with thread.

For this purpose the so-called insect needles are employed, of a length and thickness suited to the wound. For small wounds of the eyelids, they ought to possess the length and tenuity of fine pins; and for connecting the soft parts, after the extirpation of cancerated lip, the length of the finger, and the thickness of a large darning-needle.

The mode of procedure is as follows :—In deep gashes the surgeon takes hold of one edge and raises it a little up; he then pierces it slantwise, at a breadth of from one to six lines, from without inwards, carries the needle over the base of the wound, turns the point obliquely upwards, and perforates the opposite edge, in an inverse direction, from within outwards. He next winds round the needle one or more threads of cotton wick. The first turn is a circle, the second a cross upon the insulated portion formed by the circle, and which it serves to press down. This is repeated alternately, until enough is wound round, whereupon the two ends are tied. The proper degree of firmness is denoted by the natural feel of the part: too feeble counter-pressure diminishes the chance of union; too much, again, provokes suppurative disruption. If the integument included betwixt the ends of the needles is entirely covered with the threads, the two ends are to be bent a little, whereby the threads are rendered somewhat looser, the contact of the surface of the edges better maintained, the division of the needles facilitated, and the pressure of the wire on the skin prevented. By the aid of small cutting pliers, the ends are to be severed about a line's-width from the threads, after which the latter are to be cut off close to the knots.

Other methods of winding the thread are less eligible, because none affords so equable a distribution of pressure as that just described. Thus, if merely circular turns be employed, a kind of islet is formed in the middle, which swells up, projects convexly, and is prone to gangrene or suppuration. Moreover, the want of adequate pressure is injurious.

The simple crucial twining of the thread is, on the other hand, alike faulty, because violence is done to the subjacent skin, which leads to mortification, and, eventually, to a slant and suppurating fissure. No general rule can be premised as to the requisite number of needles, or the interval between each respectively. It is best, however, to introduce them first at the centre, and thence proceed towards the angles.

Every needle, so soon as inserted, ought to have the thread wound round it, and, not until the knot is tied and the ends cut off, a second introduced. The passage of all the needles as one act, and the intwisting of the thread as another, is troublesome, dilatory, and injurious. The bleeding is disturbed, the threads get entangled, and the punctures do not accurately correspond.

The intertwining of the thread from one needle to another, as occasionally resorted to in hare-lip operations, is open to the above objection. It has, moreover, this disadvantage, namely, that when the continuous turns are made, sometimes like the horizontal and sometimes like the vertical figure of 8, the needles become so intimately bound together, as to require to be simultaneously withdrawn,—a thing not always possible, as it is often expedient to remove them at various times. To this it might be urged, that the blood-crust agglutinates the threads so firmly, that a part of the apparatus might be taken away without detriment to the remainder. This is often, but not always the case; for, after fomenting with water or solutions of lead, the thread is apt to come unwound, and leave the needle free.

Another effect of the continuous thread is, that the intermediate turns tend to approximate the several sutures. This may be immaterial as regards a simple wound, even beneficial in long wounds, as tending to lessen them, but positively injurious where the shortening leads to deformity. And such must inevitably happen in oblique sections of the eyelids, *alæ nasi*, and in hare-lip. Every cicatrice determines some contraction, as being shorter than the wound, which is increased by the intermediate twisting of the thread; the result is, that the eyelid cannot shut properly, the *ala nasi* is upraised, and the lip much shortened.

The needles are withdrawn when the wound is nigh healed,—the first, usually upon the third day; but, should there be much inflammation, on the second day, bleeding from the punctures being meanwhile encouraged. The last are usually taken out off the fifth day. This is most readily accomplished by the side on which they entered. From neglect of this trivial point, risk is incurred of tearing asunder the lips of the wound. The extremity of the needle is grasped longwise, like a divided

artery, with broad forceps, and loosened from its hold by a half turn on its axis, first to the left, then to the right. The points of the left thumb and forefinger subserve for steadying, while the needle is withdrawn in a slight curve. Besmearing with oil is apt to dissolve the recent union. Previous moistening of the threads with tepid water is to be deprecated, for it causes a puffing and contraction, which impede the outward passage of the needles.

The Carlsbad insect needles have availed me for the twisted suture, from the earliest period of my career. I have consumed about a hundred thousand, learned to estimate their value with each new operation, and to their instrumentality owe my best results in plastic surgery. In the year 1824 I contributed to the Eighth Volume of Hecker's "Annalen," a brief memoir on the "Modified Twisted Suture with Insect-needles, as a rapid means of Cure in Wounds of the Face." Since then I have strenuously recommended the practice to my professional brethren.

It has been imputed to the insect-needles, that that they are difficult to introduce and prone to bend. The genuine Carlsbad, however, which are very sharp and elastic, if lubricated with tallow, glide rapidly through in skilful hands. It is not easy, indeed, to force them into hard cicatrices; but here thicker needles may be selected. One great advantage they present is the ease with which the ends can be snipped off; and they leave no marks in the skin, as alleged. Fine sewing needles have been proposed for the same purpose. These certainly penetrate better, but are apt to break, and do not bend, which is desirable for ensuring contact of the edges of the wound, and preventing the ends from pressing against or hurting the skin. When cut through, the fracture is sharp, not smooth, consequently prone to injure.

COMPARATIVE MERITS OF THE INTERRUPTED AND TWISTED SUTURE.

These two varieties are totally dissimilar in action. In the interrupted suture, a ring of thread encircles a minute portion of the skin, which it confines, and when firmly applied, strangulates and divides, as in the ligation of an artery. For the latter, division of the texture is proper; for the former, not so. Hence, the interrupted suture ought not to be too tightly drawn, or remain beyond a limited time; or, on the other hand, left too slack, because the intervening clot of blood will operate as a foreign substance, and counteract union.

The twisted suture, again, acts in virtue of the mutual pressure and counter-pressure of the needle and thread. The lips of the wound are not held together by a circle of thread, but by compressure of the surface against the subjacent needle. Within the annular thread circulation is impeded. Here, on the contrary, it proceeds uninterruptedly, and is alone effected by the strain of a waxed silken thread. Cotton-thread is not likely to cause any strain. It is no uncommon thing to introduce alternately an interrupted and twisted suture, or two of the former to one of the latter, and inversely, or three to one. In all angular situations, in the angle betwixt the nose, cheeks, and lip; in that betwixt the nose and eye-lids, and betwixt the buttock and perineum, I seldom resort to the twisted suture; in the vagina only to the interrupted; because the insertion of the needles is laborious, and the ends inevitably press inwards. I dispose the sutures again alternately, where the internal spaces are not exactly conjoined.

With respect to any general rules touching the adoption of the one or other method, it may be laid down that the twisted suture is adapted for the head, with exception of the parts covered with hair, where, indeed, stitches are rarely admissible; for the trunk, sometimes the twisted, sometimes the interrupted suture, according to the lesion; for the extremities of the body, only the interrupted suture. In reference to the face, it is not merely the attainment of an imperceptible cicatrice which decides the preference in behalf of the twisted suture, but the resulting fixation of the facial muscles, as, for example, of the mouth. As regards the trunk, the seemliness of the scar is of secondary moment, also the tardy healing of the wound; but in penetrating wounds of the chest or abdomen, the twisted suture is often a means of saving life, where the interrupted suture, or other plans of adhesion, would not avail. It is by preventing, in such cases, the entrance of air, that danger is averted, and a speedy cure effected. In abdominal wounds, moreover, the chance of the intestines getting interposed betwixt the inner edges and producing hernia, are obviated by the procedure in question.

REVIEWS.

The Manufacture of Sugar in the Colonies and at Home, Chemically Considered. By JOHN SCOFFERN, M.B., Lond., &c., &c. 8vo. Pp. 160. London: Longman and Co.

We have derived much pleasure from a perusal of Dr. Scoffern's treatise on the Manufacture of Sugar, and regret that the subject is one that does not admit of a lengthened analysis in a Medical Journal. To the manufacturer and general reader this work must prove extremely interesting, giving, as it does, a concise account of the methods in use for the refining of sugar, and pointing out the many difficulties that refiners have to contend with in the various stages of their operations. The loss sustained in these is so great as scarcely to be believed; hence it becomes a question of the utmost moment, what can be done to remedy these evils?

"The amount of sugar in sugar-cane juice varies from about 17 to 23 per cent.; whilst, according to the almost united testimony of all observers, 7 per cent. of sugar (about one-third) is something more than the average quantity obtained; and this, too, not in a condition of chemical purity, but admixed with numerous foreign matters."

The juice is obtained by crushing the cane in a mill between rollers; and the object of the manufacturer is to separate the impurities contained in the juice.

"This separation must not be effected beyond a certain extent, or the sugar existing in the cane juice obstinately refuses to crystallize on being evaporated; a circumstance not peculiar to sugar alone, but of almost universal occurrence in parallel cases. To defecate merely, or effect the separation of impurities from sugar containing juices, is but one portion of the problem to be solved. The defecating process must be effected without destruction to the sugar, and by an agent that is so perfectly under control that any excess of it, above the quantity necessary to defecation shall be easily removable. For practical purposes another and a most important condition must be achieved;—the whole must be effected within the limits of a remunerative cost."

Having spoken of the process of claying as practised, by the Brazilians, and the West Indian method of using lime as a defecating agent, and various other proposed methods, and pointing out their faults which it does not seem easy to remedy, our author says,—

"Very far superior to all other agents as precipitants for the vegetable impurities of natural sugar containing juices,—as also for the impurities existing in Muscovado sugar,—are the acetates, particularly the basic or subacetates of lead."

Certain difficulties presented themselves to the use of lead which were sufficient to prevent its employment:—

"The reasons of this failure, in the employment of lead salts, for the purpose indicated, are various, as will be presently recognised. The first problems to be solved are these:—either to use the lead salt in such exact proportion to the amount of impurity with which it is intended to combine, that both shall fall down in combination, and be capable of removal; or to add a known excess of lead salt to the sugar solution,—to separate the precipitate caused by filtration,—then to throw down from the filtered liquor all the remaining lead by means of some precipitating agent not productive of injury to sugar; and as a subsidiary problem,—to remove the acetic acid liberated from the lead, either as an insoluble compound, or to combine it with some body that shall neither be injurious to sugar or to health, and separable, if possible, by the process of drainage."

The lead must be added in excess, and this excess must be removed from the filtered solution. To accomplish this presented a difficulty which, according to Dr. Scoffern, we hope has at length been removed. Hydrosulphuric acid gas was found to destroy the sugar while it removed the lead. Sulphuric acid must be added in an exact proportion, as it either leaves lead, or else itself causes chemical changes. Messrs. Gwynne and Young proposed diphosphate of lime, and took out a patent for their process; but which was found inapplicable on the large scale on the score of expense and uncertainty. In 1847 Dr. Scoffern ascertained that sulphurous acid gas was likely to supply the desideratum, and from the success that has attended the various trials that have been made with it, we think it likely that ere long it will come into general use, provided the public can surmount the very natural prejudice against swallowing a condiment, that has been previously treated with solutions, so notoriously deleterious, as those of lead. In the preface he states that he has succeeded in extracting by his process more than 20 per cent. of crystalline sugar from cape-juice supplied from the estates of the Messrs. Hardy, of Cork. We regret that our author has thought proper to refer us to another work for the steps of this process, instead of giving a short account of it, as might easily have been done in the one before us. In conclusion, we would express our satisfaction at finding a member of our profession directing his attention towards improving and rendering cheaper an article that has almost become a necessary of life.

Fruits and Farinaceæ the Proper Food of Man, An attempt to prove, from History, Anatomy, Physiology, and Chemistry, that the best Diet of Man is derived from the Vegetable Kingdom. By JOHN SMITH. London: Churchill. Pp. 342.

The Author divides his work after the immemorial fashion of all orthodox writers into three parts. The first containing the evidence from the character of the "Original Food of Man;" the second, "Natural" Food, and the third the "Best" Food.

Mr. Smith commences his argument by a reference to the original condition of man, and, after sundry allusions to the Book of Genesis,—to the longevity of the Antediluvians—to the instinct of man, as leading him to the selection of "fruits and farinaceæ," comes to the evidences afforded by comparative anatomy. Here we of course meet him on something like debateable ground. But to lay the emphasis our Author does on the natural condition of man, is as if we were going back to these primitive times. The undraped mythus of our First Parents is all very well in its way; but it would be very obviously pushing the thing a little too far if a general ordinance were to issue now, for the first time, for all persons to follow Nature in the same way, and cut short their tegumentary investments. To live solely on nuts and pomegranates we think not less absurd.

In the second part of his argument, the Author sets out with the somewhat singular position, that man is an "extinct species," and his natural history *to be* quite unknown! While, in another part of his Work, he takes him again out of the Dodo class, and puts him alongside the hog and ourang outang. There is no analogy, we are also not a little staggered to learn, between the general organisation of man and the carnivora—the writer, with no little ingenuity, regarding all such evidences against his theory as the "shadings off" of one particular type,—the carnivorous into the herbivorous,—Nature, as is her wont, doing nothing by starts.

"An organ which is strikingly characteristic in one class," quotes our Author, "disappearing by successive gradations through several other orders, till it finally vanishes, or becomes merely rudimental." In man, therefore, the cuspids may be regarded as a form of transition between the incisors and bicuspids, having no reference whatever to the flesh-eating propensity. The articulation of the lower jaw also in man makes against his being carnivorous, Mr. Smith assures us; but we would ask, does it make against his using a mixed diet? Certainly not. Does the wonderfully beautiful arrangement of the pterygoid and masseter muscles point to nothing,—the relative length of the intestinal

al, &c.? This we take to be about the weakest part of the book.

Mr. Smith strengthens his argument from the inference of the senses, and quotes several striking facts. The sight of dead flesh would naturally scare man from its use; and, reverting to his old acquaintance, the Book of Genesis, says, with some complaisance, that when the woman *saw* that "the tree was good for food, and *pleasant to the eyes*," &c., "she took of the fruit and did eat, and gave also to her husband." But here, under favour of our friend, we would say, that Eve was doing wrong, and we should take her "*varium et mutabile*" as a very doubtful guide.

The evidences from the "moral feelings" (p. 86) we regard as thoroughly puerile, even though the cruelties of Smithfield are revolting in the last degree; and the sledge-hammer, worked by steam, hinted at the other night in the House of Commons, anything but a pleasant matter to think about. We should as soon, however, think of arraigning against vegetarianism the multipled miseries of the "agricultural interest," or the accident that befel Don Quixote when he meddled with the windmill; the subject is one not to be eked out by such accessories. We are quite content to believe, that man is intended to relish his "Nuts and Apples,"—a better name, we think, by the way, for the book than its present alliteration. Yet that we should shut our eyes to the fact, that, according as he rises in the scale of civilization, he stops "digging for pignuts," and instinctively searches out his food in a more economic form, is perfectly without excuse.

In Norway and in Arabia horses are fed on fish, and every one may have observed that a parrot may be brought to feed on flesh. Yet here it is quite obvious we are doing violence to Nature. We are not, of course, so absurd as to deny, that our present code of dietetic rules is not artificial in the highest degree. Yet that there are certain admixtures of vegetable and animal food that we instinctively crave, is equally undeniable; and if instinct is to be consulted at all in the matter, the members of the Beef-steak Club are as good exponents of the doctrine, as our great mother Eve by the silver fountains of Eden.

Though she has placed him at the top of the scale, Nature has not formed man different from other members of the sentient creation, and to study him properly we shall study him in his totality. She has not pulled down the old structure, and reconstructed it on a different plan; she has merely added "Corinthian capitals and Doric columns," as observed by Sidney Smith, to the original edifice; and, above all, she has given him an intellect to correct the errors of his instincts, and a status in the social scale which he should not willingly lose sight of.

The third part of the work on the "best food of man," is, perhaps, the most interesting of the three into which the book is divided. That vegetables contain all the elements necessary for the complete nutrition of the system seems not very difficult to prove, after the late researches of Liebig and Mulder: that the uses of vegetable diet is nothing new, too, he need scarcely go back to the days of Pythagoras and Plutarch, as the Author does in these chapters, to prove. We should not like to build much, however, on the fallacy of standing on the "*antiquas vias*" of the world; and as to vegetables containing all the elements of nutrition, milk does so, perhaps, in an equally eminent degree. We shall not recommend our friends, however, to live exclusively on milk, no more than we should exclusively on meat,—a due admixture of nutritious and innutritious matters of vegetable and animal diet being the exact mean towards which man's organization clearly points.

The diseases originating in abuse of animal food are next indicated.

"Food in excess," says Dr. Clarke, "or of a kind too exciting for the digestive organs, may induce tubercular cachexia—a circumstance not sufficiently attended to—nay scrofula."

Abernethy says—

"Animal substances are changed into a putrid, abominable, and acrid stimulus."—P. 189.

All which, it seems, was further verified by Sir Edward Barry, who prevailed on a man to live on partridges without vegetables, but who, after eight days, was obliged to desist, in consequence of incipient putrefaction. Here, however, it is not difficult to perceive that it is from the *abuse*, not the use of animal food, our Author argues—a very old and time-worn fallacy.

Some valuable observations are made on the injury likely to accrue from the continued use of highly *concentrated* nutritious substances, and the case of Dr. Stark is mentioned, who made some experiments of a very curious nature, among the rest some on himself, as to his power of living on oil, and flour, and gravy, and such like concentrated substances, but died in the course of nine or ten months, in the most miserable state. The people of Kamskatka, if we are rightly informed by travellers, show more sense than this, mixing sawdust very sensibly with their oil; indeed the thing would seem to require no experimental demonstration, and why it should be brought by our Author, into his great armoury of facts we cannot divine.

The chapters on the experience of nations and individuals, though somewhat picked out, and consequently one sided, contain many valuable facts also, and, as showing a state of deprivation of the ordinary necessaries of life rather than the normal condition of the human family, not uninstructive. The Russians, for instance, exist (or the most part on black bread, pickled cucumbers, and mushrooms; butcher's meat is nearly unknown. In Norway, the peasantry exist on this same black bread, with thin slices of meat dried in the wind. The Poles and Hungarians exist on oaten bread and potatoes. In Spain, after the ever memorable example of Sancho Panza, we suppose the peasants eat nothing but onions and brown bread;—the Greeks eat figs and dates;—the Turks, at Constinople, fish and figs. Among the Hindoos, the three higher castes are prohibited from the use of flesh meat; the fourth are allowed the privilege. The Pattamars, a caste that carry letters and undergo frightful fatigue, subsist on a little boiled rice. The Chinese live on rice and fruits. An African race, the Kroomen, luxuriate on yams and palm oil;—the inhabitants of Mexico on maize;—the Affghan lives on bread and curds; yet, according to Sir Francis Head, "he will undergo as much fatigue, and exert as much strength as the porters of London, who are fed on flesh and ale; neither is he subject to their acute and obstinate disorders." The Spaniards of South America live on vegetables; they are, perhaps, as equally strong.

These are no doubt striking facts, and not to be lost sight of by the practising physician; in giving advice as to the bringing up of children, &c., a proper preponderance of vegetable over animal food, being more likely to do good than the opposite, and *vice versâ*.

Indeed, in this point of view we look upon Mr. Smith's book as one of no little practical value, and likely to do much good, exhibiting the *possibility* of human existence on "Fruits and Farinaceæ," and the injury likely to arise to the human constitution from an exclusive adherence to animal diet, evinced in the several diseases, especially of the blood and renal system; the very paramount importance of a mixed diet is as fully shown as its warmest advocate might wish.

Mr. Smith, in conclusion, recommends the adoption of his mode of diet to be gradual.

THE INADEQUACY, IMPOLICY, AND INJUSTICE OF THE PRESENT SYSTEM OF POOR-LAW MEDICAL RELIEF.

[To the Editor of the Medical Times.]

SIR,—To diminish the rate of mortality, and the amount of sickness and disability among the poor, by improved arrangements for the speedy detection and efficient relief of their diseases, is a matter of such vast importance to the welfare of all classes of the community, that any suggestions towards the institution of a system of Medical aid superior to that which prevails under the Poor-law, cannot fail to interest those who are endeavouring to promote the public health.

After a long experience of visiting the sick of a large Union, I am satisfied that the present method of administering Medical relief is very unsatisfactory, both to the poor and to the Medical Officers; and it is my sincere hope, in bringing the question before the public, that some attempts will be made to place this department on a better foundation.

The principal evils of the present system of Medical relief arise from the circumstance of the Medical Officers not being responsible to a properly-constituted Medical authority. They are annually elected by Boards of Guardians, who are profoundly ignorant of everything that relates to Medical science; and they are subject to their control and to that of the Poor-law Commissioners, who are equally uninformed upon Medical subjects.

Now, if in the Medical department of the Army and Navy, the supervision which is exercised by the Director-General and the Medical Inspectors, has proved to be so efficient in reducing the amount of mortality and improving the physical condition of the men, it surely is a duty incumbent on the Government to appoint similar officers for the regulation of attendance on the poor. Medical men would more readily listen to advice from one of their own Profession, and feel greater confidence, that in all cases of alleged neglect, justice would be done to them, than at present, when subject to the caprice of those who are necessarily incapable of judging of the merits of any Medical question.

If a Medical Director-General of the Public Health, and a staff of Medical Inspectors subject to his control, were appointed, (wholly apart from the Poor-law Board,) to whom were intrusted the supervision of the district surgeons, we should doubtless soon experience a great decrease in the amount of sickness and mortality of our labouring population, and proportionate saving in the Poor-rates and other public expenditure. We should also soon cease to hear the bitter complaints of the Medical Officers on being compelled, in order to retain their private patients, to attend paupers and supply them with all necessary drugs and appliances at 4d. to 6d. a case, (as is really the fact in some Unions.)

The re-arrangement of the Medical districts throughout the kingdom would be an essential feature of any thoroughly-amended system. In rural districts, the separation of private practice from Medical poor attendance might not be practicable nor desirable; but in towns and crowded populations, for the sake of the food, it would be advisable to make the Medical Officers independent of private practice. Under the present arrangement the Medical Officer incurs the risk of losing his only means of support, namely, private practice, by attending to a pauper case when his services are required by a person in good circumstances. The poor then suffer from the delay, and the expense, indefinitely increased by the protracted illness of the pauper, must be defrayed by the ratepayers. If, however, it should be thought that the duties of attending to the sick of a moderate district are not sufficient to engage the whole of the time of the Medical Officer, he might superintend the registration of births and deaths, in order to secure greater accuracy in the returns than at present; and, as a surer preventive of crime, he might be required to verify the fact and cause of every death within his district.(a) The regular house to house visitation, recently adopted with such marked success at Dumfries, should also be performed under his supervision. The vaccination of the district, and other prophylactic measures and sanitary duties, which may, under the Public Health Act, have to be performed by District Medical Officers, would also form parts of his duties. Thus his time might be fully and profitably employed.

Most persons are now agreed that the cost of the drugs for the use of the poor ought to be defrayed out of the local rates; and in some Unions, I am happy to say, the guardians have adopted this system, it being manifestly unwise to place the duties of the medical officer at variance with his interest as regards the supplying his patients with expensive remedies. It is a fact, that in some Unions the excessive expense of dietary recommendations arises mainly from the necessity felt by the Medical Officers to charge the cost of the remedy on the public. They are compelled to treat certain cases by prescribing meat, brandy, and porter, instead of furnishing, at their own expense, ether, quinine, and sarsaparilla. The poor

(a) The Guardians of the Whitechapel Union have recently expressed an opinion, that the District Medical Officer may insist upon visiting every case of death before giving a certificate. The Legislature ought to make it compulsory upon a Medical Officer to certify as to the fact of death in every instance.

generally are aware that the Union surgeons are badly paid; they therefore naturally infer that their medicines are of little efficacy, and in very many instances they refuse to take them. Nor is this to be wondered at when the mode of administering medicines at an hospital is compared with that adopted by the majority of Union surgeons. By law, the poor are entitled to receive medical advice and medicines when suffering from sickness, and both ought to be of the best description, otherwise the boon become a mockery. In towns, therefore, dispensaries should be made use of, or opened at the public expense, for the supply of medicines to the out-door poor.

With regard to the in-door paupers, the same care should be taken of every patient in a workhouse as in a hospital. Each case should be entered on a paper suspended at the head of the bed, and the medicines and diet which are required for the invalid should be noted on the same paper. There should also be a resident dispenser in every workhouse, who should be required to see that each patient has his medicine properly prepared and labelled, and be in readiness to attend to every case of emergency until the arrival of the Medical Officer; for cases requiring immediate assistance are of frequent occurrence in every large workhouse; besides, persons are brought by the police to the workhouse in a state of insensibility, and some have died before Medical aid could be procured. The Medical attendance on the workhouse ought always to constitute a distinct appointment from that on the out-door poor.

Some pseudo-economists may object to the amendments above suggested, on the ground of expense but, if they were faithfully carried out, I am firmly of opinion, that so far from proving more burdensome to the rate-payers, they would soon be found to diminish our parochial expenses.

The propositions briefly stated in this letter embody the main principles of Medical poor relief, long since advocated by Mr. Rumsey, of Gloucester, and Mr. Ceely, of Aylesbury, on behalf of the Provincial Medical and Surgical Association, and therefore have received their concurrence. Nothing short of the alterations now suggested, in our opinion, is likely to prove satisfactory to the public, the poor, or the Medical profession.

4, Ali-place, 28th July, 1849. JOHN LIDDLE.

UNIVERSITY DEGREES.

[To the Editor of the Medical Times.]

SIR,—In the *Medical Times* a short time since, is a letter on the subject of University Degrees, from "M.D. et Chirurgus," in reply to that of a gentleman who had drawn attention to the advantages offered at Aberdeen and St. Andrews to General Practitioners desirous of a Medical Degree. The "M.D. et Chirurgus" is very severe on your former Correspondent for his (alleged) ignorance of the subject, especially in reference to the *English* Universities, and "avails himself of the opportunity to set him and many of your readers right in that respect." In an authoritative manner, he states the course of Medical Education and Degrees at Cambridge, intermingling many sneers at the system which he details. To judge by the acerbity of his criticism, one would never suppose this corrector and spontaneous informant of others to partake so largely of the ignorance he condemns,—"the ignorance on this subject that is very prevalent in society."

But surely he might have inquired of some Cambridge acquaintance (if he have any) what the system is, before he ridiculed it; or he might have referred to the *Cambridge Calendar*, before making himself ridiculous by his blunders. He would not then have stated, that "the student may go out in Medicine within three years. To *go out* in Medicine, or in Law, is what is called, in the University, *degrading*, the degree being inferior to the B.A. degree." The fact is, that the student must have been entered at the University five complete years before he can *go out* in Medicine, *i. e.*, take the degree of M.B. During three of these years he must have resided in the University; the other two being spent at any good Medical School. The term *degrading* was never applied to going out in Medicine until your Correspondent used it; and the degree of M.B. is not inferior, but superior, at Cambridge, to that of B.A.

Again, "M.D. et Chirurgus" states:—"As to the examination for the Medical Degree, he (the candidate) has to do with but one Examiner, the Regius Professor of Medicine." On the slightest inquiry, this gentleman might have ascertained, that the candidates for the degree of M.B. are examined, not only by the Regius Professor of Physic, but also by the Professors of Anatomy, Chemistry, and Botany, and the Downing Professor of Medicine, and have to produce certificates of hospital-attendance, &c.

Moreover, he states:—"Upon ten years' standing the Bachelor takes his degree (of M.D.) as a matter of course, upon payment for it, &c." "He has not however, to undergo any further examination or any trial, beyond a laughable monkish ceremony, descended from the Medieval Customs."

These are as exact as his other statements. M.B.s of more than five years' standing may be candidates for the degree of M.D., but cannot obtain it unless they have passed a practical examination by three Professors and another M.D., and have shown, by certain certificates, that their medical studies have been pursued regularly.

The manner of conducting the examinations is chiefly by requiring written answers—a system which I need not defend, as it has been adopted from Cambridge by all the Universities, Colleges, and schools in England. The candidate for the degree of M.D. is also examined at the bed-side of the patient, and has there to prove his practical knowledge and skill in diagnosis and treatment.

In the examination for M.B., the number of those who fail in obtaining the degree is about one in five or six.

This letter has run to a much greater length than I intended. My excuse must be the *number* of errors to be corrected.

I will now conclude, in the very words in which your Correspondent himself began:—"It is a pity that he did not learn something more accurately about the British Universities, and understand his subject better before he sat down to make remarks."

I have the honour to be, Sir,
Your faithful servant,

July 26, 1849. M. D. CANTAB.

ANNIVERSARY OF THE PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION.

The Seventeenth Anniversary Meeting of the Provincial, Medical, and Surgical Association has just been held, under circumstances of peculiar interest. After having made a tour of some of the principal cities in the Kingdom, it once more returned to the place of its birth and to the Presidentship of its founder. The attendance of Medical men however, was not so numerous as might have been expected.

George Norman, Esq., F.R.C.S., Bath, President of the Association for the past year, took the chair, and proceeded to address the meeting. He said, the only duty which now remained for him to perform was, to thank them all for the kind attention shown to himself throughout his year of office. He must also express his satisfaction at his meeting the Association this year in the city of its birth, and that it was to be presided over by the gentleman to whom it owed its origin. (Great cheering.) It could not be hoped that all of them would live to see another seventeen years of the Association's existence, but he had no doubt that it would exist so long, and acquire all the strength and importance which its first founder had upon rational and fair grounds expected. He trusted, that after the lapse of another seventeen years, the Association would still find its founder capable of presiding over its meetings. (Loud cheering.) He had, in conclusion, only again to thank them personally for their kind attentions during the time he held the office of President, and to wish them all success, health, and happiness. (Much applause.)

Mr. Norman then gave up the Presidential chair to Dr. Hastings, who, on rising to address the meeting, was greeted with long-continued applause. We merely allude to his excellent and eloquent address, which, though long, was listened to with the greatest attention, and frequently interrupted by the applause of the meeting; neither do we give at length the "Report" read by Mr. J. P. Sheppard, since both will be published, and with accuracy, in the "Transactions of the Society."

Dr. Hastings congratulated the meeting not only upon the many eminent men who were members of the Association, but who had honoured them that day with their presence. When he compared the comparatively small body who had met seventeen years ago with the numerous band of physicians and surgeons,—zealous and successful cultivators of science, and occupying the highest places in the Profession,—who were now members of the Association, he felt that the glowing anticipations he had then formed had now been fully realised. He anticipated the most pleasing results and great scientific and social benefits from the happy annual meetings of the Association—eye beaming on eye, and voice answering to voice. He welcomed the members to the ancient and highly interesting city of Worcester, where, he assured them, they would be received with all those honours so justly their due. The Association had been the means of investigating and throwing much light on many important medical subjects; it had published the results of its inquiries, and had contributed greatly to the advancement and spread of knowledge. The great question of medical legislation had not been neglected, and the Association had contributed greatly to the cause of the Medical Charitable Institutions in the towns which it had visited. "In conclusion," said Dr. Hastings, "let me give expression to the great joy with which I hail this day, '*O diem lætum notandumque mihi candidissimo calculo,*' the day that this Association revisits Worcester, once the capital of an ancient kingdom; but still more closely linked to us as the centre of our flourishing Society. Let me also assure you, that in any thing which concerns the cause of science and the interests of humanity you may command my humble services; and that I highly value this Association, for I there witness the triumph of the social principle,—a principle I earnestly recommend you all to cherish; it is the principle which promotes peace; it is the principle of true honour; it is the principle of the Christian religion. (Long-continued applause.)"

The "Report" was then read by Mr. Sheppard, secretary *pro tem.*, who congratulated the members on again meeting at Worcester, where seventeen years ago the Society was first formed. Since that time the Association had spread its branches over every part of England, and members were connected with it not only in most of the European, but also in the American States; it was gratifying to reflect, that from the institution of this Society to this time, it had steadily advanced in importance, in influence, and usefulness. On each recurring anniversary there had been abundant cause for concluding that much benefit had resulted from the steady pursuit of the objects for which the Society was formed; and the Council were of opinion, that past experience had shown that its original constitution was a good one, and fully answered the purposes it was intended to serve. The death of Dr. Streeter had been deeply regretted; it would be long before his place could be adequately supplied; the Worcester Council had not failed to record their sense of his merit, and the loss the Association had sustained. The affairs of the Association were prosperous. At the present time, in return for an annual subscription of one guinea, every associate received once a fortnight a copy of the *Provincial Journal*, and since the last anniversary meeting, Parts 1 and 2, making the sixteenth volume of the "Transactions," have been published, and a copy been sent to every member whose subscription is paid. These great advantages could only be continued by a punctual payment of the subscriptions, which every member would feel called upon as his duty to do. The Council recommended, however, that the numbers of copies of the *Journal*, and of the "Transactions," to be printed, be regulated by the members who pay, rather than by the number of members who may be on the list. By these means the Council considered that a saving would arise on the expenses of the publications. The Report slightly alluded to the great questions of Medical Reform, Parochial Medical Relief, and the Benevolent Fund; recommended that Mr. Sheppard should be confirmed in the Secretaryship, and a new Editor appointed for the *Journal*.

Dr. Burrows moved—"That the Report now read be adopted and printed," to which he said he should wish to add, that the admirable address which they had just heard from their esteemed President should also be printed and put into circulation amongst the members. He could not say, that the address was an unexpected pleasure to him; for, from his long acquaintance with Dr. Hastings, he was prepared to hear from him those noble sentiments and the expression of benevolent feelings which he had known to be the inmates of that gentleman's breast. (Cheers.)

Dr. Little seconded the resolution, which, when put from the chair, was unanimously carried.

Dr. Conolly, of Hanwell, proposed the election of James P. Sheppard, Esq., to the office of Secretary, as recommended by the Council in their Report.

Dr. Forbes, of London, seconded the resolution, which was carried with applause.

Mr. Sheppard thanked the meeting for the compliment they had paid to him. He must call attention to the large number of members, that were in arrear with their subscriptions. He required that the publication of the Society should not be supplied to any such. There was now 1,828*l.* owing to the Society, and that without taking into account any

arrears below three guineas in amount. Under these circumstances he had a work of labour before him; but, if supported, he would unflinchingly do his duty. (Cheers.)

Mr. Flower, of Chilcompton, then moved, and Dr. Heygate, of Derby, seconded, a proposition, that Mr. Bartram, of Bath, and Mr. Martin, of Reigate, should be appointed auditors for the ensuing year.

Mr. Soden, of Sudbury, next very eloquently proposed, and Dr. Robertson, of Northampton, ably seconded, a vote of thanks to G. Norman, Esq., for his conduct as President during the year just past.

Mr. Norman could not allow the vote they had just passed to go by in silence, or without thanking them in return most cordially and from his heart. The private and friendly feelings of Mr. Soden had led him to rate his worth at a much higher value than the public had any right to do—(no, no)—but he felt very much all that he had said, and was deeply sensible of the kindness which had been shown to him by his professional brethren.

Dr. Conolly, of Cheltenham, proposed a Committee to consider the qualifications of the candidates for the editorship of the *Journal*, to report to the Council their decision within three months, and their choice to be subject to the confirmation or rejection of the general meeting in 1850.

Mr. Pierpoint, of Worcester, seconded the motion. Some discussion ensued, in which great stress was laid upon the necessity that existed of engaging thoroughly qualified man as Editor of their *Journal*, but ultimately the amendment, being put to the meeting, was lost, and the motion carried in its original form.

Mr. Crompton, of Manchester, brought forward the subject of the printing and publishing of the *Journal*. He said he had heard a great many complaints as to the general management and appearance of that periodical. One gentleman had observed to him that it was badly printed, bad ink, bad paper, badly edited, and badly folded; and he (Mr. Crompton) proposed that a Committee should be appointed to investigate its management, to see if it could not be more economically conducted, and to report whether or no the *Journal* should continue to be published in Worcester.

Mr. Greenhill seconded the proposal, and spoke strongly as to the cost of the *Journal* at present. A rather earnest discussion ensued, several gentlemen objecting to the remarks of Mr. Crompton, especially as to the paper being badly edited. Many members spoke of the gentlemanly tone of the leading articles and the total absence of all asperity. The President said, the Council had constantly in view the reduction of the expense of the publication of the *Journal*; and the proposition being put to the meeting, it was negatived by a large majority.

Mr. Flint, of Stockton, proposed, that the Council should be requested to issue a series of questions relating to cholera, which was unanimously carried.

A matter of a personal nature was next brought before the meeting by the President. A Mr. Edwards, of Wiveliscombe, was struck off the list of members of the Association, at the request of the West Somerset Branch, because he continued to hold consultations with a Mr. Blake, of Taunton, who had been excluded from the College of Surgeons. A vote of thanks was also passed to the West Somerset Branch, for following up the matter with such decision, and so strenuously upholding the honour of the Profession.

The Secretary then read a statement of the finances of the Association, which showed the receipts for the last year to be 1,718*l*., while the expenditure was within 16*l*. of that sum.

This concluded the business part of the meeting, and papers and cases were then read.

A case of successful Cæsarean operation was communicated by Dr. Radford, of Manchester; Mr. Crompton, Manchester, read a paper on burns and scalds; and Mr. Kitsell, of Droitwich, a short case of hydrocephalus, in which he had punctured the head of a little child some twelve months old in a case of decided hydrocephalus, took from it nine or ten ounces of liquor, and kept the puncture open by probings, instead of closing the wound, as usual in these cases. The result was a decided cure, and the infant, which was shown to the members on Thursday, appeared in good health.

The members adjourned about half-past five o'clock.

EVENING SITTING.

The members met again at eight o'clock, when Mr. Newnham, of Farnham, the Secretary to the Benevolent Fund, read the Report. He showed that both the receipts and the amount of aid enabled to be given had been doubled during the last year. Thirty-four cases of misery and destitution had been relieved, and the donation-fund had been increased from 1,183*l*. to 1,550*l*. The general subscription-fund had reached 510*l*. 7s. 10d., and the amount expended in relief was 454*l*.

Several gentlemen, including Dr. Cowan, Dr. Conolly, and Mr. Newnham, spoke on the subject; the whole meeting seeming to be deeply interested by the appeals and statements that had been made, and the conversation was only stopped by the President announcing, that the friends of the Benevolent Fund were to meet on the morrow morning, at eleven o'clock, and any suggestions might then be entertained.

The President then called on Dr. Sibson, of London, late of Nottingham, to deliver the address in Physiology.

The subject which Dr. Sibson chose for his remarks was, "The Physical Causes which excite the Respiratory Movements;" and his observations applied principally to those animals breathing with lungs. It must be kept in mind, that there are two distinct processes always going on with reference to the action of the respiratory organs, namely, the absorption of atmospheric air into the blood, and the elimination of carbonic acid by the blood, each of which was alike necessary for the continuance of life. Under different circumstances respiration went on with various degrees of vigour. He had used an instrument for the inhalation of chloroform to test this. There was a bladder attached to it which would contain 600 cubic feet of air. This he found he filled when at rest by twenty-two ordinary expirations—time about a minute and a half. In walking it was filled at about eleven expirations; and, after running as fast as possible, at four and five expirations. But it was not only by bodily exertion that respiration was influenced. The emotions of the mind had great influence upon it; under great depression of spirits it often almost entirely ceased, while a man in a great rage had a great deal of respiratory work to do. It was, therefore, of great importance to the medical practitioner to study the physiological causes of inspiration. The first inspiration in an infant was undoubtedly caused by the excitement of the air upon the surface of the body, and the discovery of the excito-motor nerves was one of the great triumphs of modern physiology. The knowledge of this cause of respiration was of great use to the medical man. In cases of poisoning by opium, for instance, the application of various stimulants to the surface—such as dashing cold water in the face, the application of heat to the feet, ammonia to the nostrils, electro-magnetism (not to the centres of the nervous system, but the nerves upon the surface)—might all be used in turn—as soon as one failed, to continue to produce respiration by another being applied till the patient was roused and recovered. With regard to the par vagum, though undoubtedly necessary to respiration, he did not consider it one of its causes; and the brain might likewise be removed, and yet the respiratory movements be continued. The arterial blood, but not the venous, when brought into contact with a larger portion of the surface of the body, was also one cause of respiration; and the knowledge of this fact might be of great use in cases of chronic asphyxia, as any means by which the action of the arteries could be excited might be a means of saving the patient.

Dr. Sibson's address was most pleasingly delivered, and very enthusiastically received.

Mr. Toynbee read a short notice on osseous tumors of the auditory passages, which elicited his opinion of the inutility of Mr. Yearsley's new medicine for deafness—glycerine. He had made 1,200 dissections of diseased ears, and believed that organ to be the subject of a greater variety of diseases than any other in the human body. In most of these, glycerine, or any other lubricating application, could be of no service. The dryness of the tube was only a symptom of the existence of other organic diseases—it was not in itself a cause of deafness.

The evening was concluded by Dr. Malden's reading a most able and highly-interesting paper on dreams, pointing out how they might in some cases indicate the presence of disease.

The sitting did not close till twenty minutes to twelve o'clock.

THURSDAY.

At half-past eight o'clock this morning, more than a hundred gentlemen breakfasted together in the large hall of the County Courts, and Dr. Hastings announced that the Infirmary was ready for inspection, and that the Dean and Chapter had thrown open the Cathedral to the Association; from the top of the tower of that building the best panorama of the city could be obtained, and his son, Mr. George Hastings, would accompany any who were interested in antiquities to point out the site of the battle-field of Worcester.

At the morning sitting at twelve o'clock, a Committee was appointed to confer with the London Committee now sitting, for the purpose of erecting a monument to Dr. Jenner.

The address in medicine was delivered by Dr. Bell, of Manchester, chiefly on "The Causes of the Production and Propagation of Disease." His observations were, for the most part, directed to strictures on the statements of the Board of Health, that quarantine was entirely useless, and that typhus, influenza, cholera, yellow fever, and plague all obeyed the same laws, and were only epidemically spread, and not diffused by contagion. Dr. Bell also considered the means by which poisons were propagated, concluding that all specific poisons were propagated by contagion, and that epidemic influence upon such diseases was only to give a peculiar character to them, and to make general their more particular operation upon one or other of the bodily organs. Typhus, scarlatina, and measles, therefore, were not epidemic, and ought not to have been classed by the Board of Health with cholera, yellow fever, and plague. Quarantine, therefore, was of use with regard to the first-named contagious disease, and a rigorous system of quarantine might have saved thousands of lives which had been sacrificed by the introduction of typhus by Irish emigrants. The only ground upon which the Board might have argued the propriety of abolishing quarantine as to these diseases was the presence of the virus already in the country. As to cholera, &c., which was really an epidemic disease, quarantine might be advantageously abolished. He hoped that the Medical Profession might become more united upon the subject of contagion,—as he thought they easily might,—and so a great cause of discredit with the public be avoided.

The usual thanks having been voted to Dr. Bell for his address,

Mr. Lord, a Deputation from the Convention in London for protecting the interests of the Poor-law Medical Staffs throughout the country, read a resolution of thanks passed by the Committee to the Association for the interest taken in the subject at its last year's meeting, and urged the necessity of strenuously taking up the subject of the payment of Poor-law Medical Officers.

Dr. Cowan (Reading) moved the adoption of a Memorial to the Poor-law Board, and a Petition to Parliament on this subject, which was seconded by Mr. Cantrell, of Wirksworth, and carried *nem. con.*

Dr. Sibson then proposed a Petition to Parliament on secret poisoning, upon the plan proposed by Dr. Toogood, of restraining the use of arsenic, by obliging druggists to have a special license for its sale, and by keeping a book in which the purchaser and a witness should be compelled to sign their names.

Dr. Tunstall (Bath) objected that the trouble it would entail upon the druggists would ensure their hostility to it, and the plan would not be feasible. It had been suggested to him, that if druggists were prevented from selling arsenic uncombined, the object would be accomplished. If all rat-powders were mixed with lamp-black and grease, it could not be put into human food without at once being discovered.

The subject was referred to a Committee of three gentlemen.

On the proposal of Mr. Martin, of Reigate, the next anniversary meeting of the Society will be held at Hull; F. R. Horner, Esq., M.D., of Bath, being nominated as President elect.

Cases having been read by Mr. Niven, of Pershore; Dr. Paxton, of Rugby; and Mr. Hare, of London,

Dr. J. Conolly reported the progress of a Committee appointed to consider the best method of bringing the subject of medical ethics under the attention of the members of the Association.

On the motion of Dr. Burrows, seconded by Mr. Paget, of Leicester, thanks were voted to the Mayor, Magistrates, and citizens of Worcester, for the kindness and liberality with which they had received the Association, to Sir J. Pakington and the County Magistrates, for the use of the Shire-hall, and to the Council of the Natural History Society for the use of the room.

The President then vacated the chair, which was immediately taken by Mr. Pierpoint.

Mr. Soden moved a vote of thanks to Dr. Hastings for his able conduct in presiding over the meetings of the Society. This was seconded by Mr. Newnham, both gentlemen expressing themselves as to the obligations which the Society was, and always had been, under to Dr. Hastings.

The vote was carried by acclamation, the whole

company rising from their seats and applauding for several moments.

Dr. Hastings returned thanks, and the meeting separated.

About 160 members and their friends dined together in the Assembly-room of the Guild-hall; and thus ended another anniversary of the Provincial Medical, and Surgical Association,—one which, according to the testimony of all concerned, yielded to none of its predecessors as regards the general instruction and pleasure it afforded.

MEDICAL NEWS.

Apothecaries' Hall.—Names of gentlemen who passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday August 2nd, 1849:—Thomas William Shea, England; John Syer Bristowe, England; Charles Morgan, England; Edmund Manley, Manchester; Walter Battershell Gill, London; Samuel Curtis Candler, Beccles, Suffolk; Frederick William Napoleon Wilson, Newcastle-upon-Tyne; George Garnham, Martham, Norfolk; James Fuller.

Royal College of Surgeons.—The following gentlemen, having undergone the necessary examinations for the diploma, were admitted members of the College at the meeting of the Court of Examiners on the 3rd inst.:—Messrs. Thomas Hardy, London; Edmund Manley, Manchester; Charles George Woodd, Bromley, Kent; Edward Morgan Puddicombe, Dartmouth, Devon; Algernon Sudlow, Twickenham, Middlesex; Benjamin Davies, Froodvale, Carmarthenshire; John Candler, Aylesworth, Suffolk; Thomas Hutchinson, Camborne Cornwall; Richard Pope Jeston, Henley-on-Thames; James Gilbert Martyn, Camelford, Cornwall; James Rigby, Stockport, Cheshire; and John Clarke, Newbury, Berkshire; at the same meeting of the Court, Mr. George Edward Nicholas passed his examination for Naval Surgeon; this gentleman had previously been admitted a member of the College, his diploma bearing date February 6, 1846. And on the 6th, Messrs. David John Whitty, Aberdare, Glamorganshire; Thomas Bryant, Clapham-road; Frederic Duke, Hastings, Sussex; Isaac Tucker, Westbury Leigh, Wiltshire; and George Johnstone, New York.

The College Council.—There are two more vacancies in the governing body of the Royal College of Surgeons, which was so recently filled up, viz., by the death of Mr. Goldwyer Andrews, and the resignation of Mr. R. Welbank.

Fellowship of the Royal College of Surgeons.—We understand that ten gentlemen presented themselves as candidates for the Fellowship of the Royal College of Surgeons, whose names we shall next week publish. The following questions were proposed to the candidates on Tuesday and Thursday last, viz.:—Anatomy and Physiology. Senior Candidates. First Day. 1. Describe the regions into which the abdomen is divided, and the situation of the viscera in those regions. 2. Describe the course of the large intestine from its commencement to its termination, with its connexions of peritoneum. 3. Describe the vena portæ, namely:—The veins which form it, and the sources from which they are derived; the course and relations of its trunk; the distribution and termination of the branches from the trunk; and the vessels which convey the blood from the liver. Also, the differences of the portal circulation in the fœtus. 4. Describe the structure of the shoulder-joint, with the situation and actions of the muscles which move the os humeri. 5. Describe the nerves which supply the globe and muscles of the eye. 6. What are the proofs that the blood circulates? The following were submitted to the Junior Candidates:—1. Describe the structure of the larynx, namely, its cartilages, joints, ligaments, muscles, vessels, nerves, and lining membrane; also the mode in which a vocal intonation is produced and modulated. 2. Describe the structure of the iris, with its vessels and nerves, and the functions of the iris in connexion with vision; explain also the influence of the nerves on the varying size of the pupil. 3. Describe the causes and conditions of the buffy coat of the coagulum of the blood, and the various circumstances which modify its formation. 4. Describe the structure and functions of the trunks and larger branches of arteries, and also the disposition, structure, and functions of the capillary vessels. 5. Describe the origin, connexion, course, and distribution of the fifth cerebral nerves, and their functions, both generally and in the several parts which they supply and state in what respect, if any, they are analogous to spinal nerves. 6. What information does the microscope afford with respect to the structure, origin, and termination of nerves. The following were the questions proposed to the senior candidates on the second day (Thursday) in Surgery, viz.:—1. Describe the process by which fractured bones are united through its several stages. 2. What is the state of the blood-vessels, and of the blood circulating in them, in any part affected with phlegmonous inflammation; and what are the changes which take place in the inflamed part? 3. What are the effects and remedial uses of mercury, when so administered as to affect the system? What are the signs of the injurious influence of the remedy under a protracted course? And how should it be administered in order to obtain its full influence on the system? 4. What are morbid changes which have been discovered in the *post-mortem* examination of persons who have died of tetanus? What light has been thrown on the causes of the disease, either by morbid anatomy or experiments on the lower animals? And what is the state of our knowledge of its pathology? 5. Describe the operations of laryngotomy and tracheotomy; and state the difficulties and dangers which belong to these operations. 6. What is the nature of cancerous or malignant disease? What are its forms? What is the anatomical character of each? What is its mode of propagation? And what are the organs which are primarily or secondarily affected?

Obituary.—At an advanced age, W. M. Thackeray, Esq., M.D., senior Medical Practitioner at Chester.

The late Mr. Clift.—The sale of the effects of this gentleman took place last Friday and Saturday. The books, which were generally in good condition, realised but indifferent prices. They were remarkable from the great number of curious notes they contained, in the handwriting of the deceased, having reference to the eventful period in which he lived, and contained his opinion of men and manners,—and valuable notes many of them are. The principal purchasers were Mr. T. M. Stone, of the College of Surgeons, and Mr. Guerrier, the builder of the same Institution. One of the lots, a Medical Journal in excellent binding, excited some amusement from its being lettered "*The Stiletto,*" instead of the correct title; the cause assigned for this eccentricity being, in the opinion of its owner, the freedom with which "*it stabbed people in the dark.*" In the second day's sale of furniture, there were a few lots deserving of notice, viz., the looking-glass of John Hunter, knocked down to Mr. Quekett; and the mahogany book-case and writing-desk, which Mr. Stone was so fortunate as to secure, together with Sharp's line engraving of Hunter, one of the earliest proofs of this great work of art, and a brilliant impression of the scarce print of Abernethy, both of which had been presented to Mr. Clift by the parties themselves. Mr. Stone also obtained several valuable medical portraits and autographs.

The Cholera.—The Reports during the past week, from the provinces, show that this disease, upon the whole, has a tendency to decline. In some large towns the cases have been numerous, but there has been a diminished mortality. In Gloucester and Worcester it has disappeared, and those, with many other towns, will probably remember the visitation, as much for the sanitary reform which it has brought about as for the fatality which has attended its progress. In the American Union cholera has been advancing with fearful rapidity. New York has been panic stricken by the number of deaths which have occurred amongst all classes from it, and the authorities there are using all the efforts which science and humanity can suggest to arrest its progress. No successful mode of treatment has yet been published. We subjoin the weekly Report of the Registrar-General for this metropolis:—It is unsatisfactory to observe, that the constant increase of mortality, which commenced in the second week of July, was maintained in the week ending Saturday last. The deaths from all diseases in last week were 1967—a mortality nearly double the weekly average of the season, which is 1008. The progress of the mortality is shown by the following numbers returned in the last four weeks:—1369, 1741, 1931, and 1971. The deaths from cholera, which in six previous weeks were 49, 124, 152, 339, 678, 783, increased in the last to 926. A feature worthy of notice in the present return is the fact, that, while the mortality caused by cholera has increased, there has been simultaneously a decrease in the deaths attributed to diarrhœa; for whereas the deaths from this disease (including dysentery) were in four previous weeks 54, 100, 146, 239, in the last week they declined to 198, an amount which is nearly the same as in the corresponding week of the summer of 1846, and little more than that of the same week of 1848. It is shown, therefore, that the total mortality from diarrhœa, dysentery, and cholera amounts in this return to 1,124, while the average is only 92. Consequently the excess from the three epidemics exceeds in some degree the increase above the average of the mortality from all causes, which is owing partly to the circumstance that the death from fractures, burns, and other injury registered in the week were unusually few. Other epidemics besides those mentioned are under the average, with the exception of hooping-cough, which a little exceeds it. The mortality from cholera still predominates on the south side of the river, the deaths there, which in the preceeding week were 514, rose in the last to 621. On the north side of the Thames the deaths in the western districts were 31, showing an increase; in the northern 27, or nearly the same as in the former week; in the eastern 127, a slight increase; and in the central, which includes St. Giles and St. George, Strand, Holborn, Clerkenwell, St. Luke, East London, West London, and City, there is a small decrease, the number being 93, though in the previous return there were 97 deaths. The greatest number in any district on the north side of the river is in West London, namely, 32. Of the southern districts, there were 67 in Bermondsey, 86 in Newington, 112 in St. George, Southwark, and 143 in Lambeth. The deaths in Rotherhithe are now comparatively few. The death of a man of 40 years in Brompton was caused by erysipelas of both legs, of putrid character, (after five days' illness,) caught from sleeping with a child who suffered from the disease. The daily mean of the barometer was highest on Thursday, when it was 29.965. The mean of the week was 29.793. The temperature was under the average of the corresponding days of seven years on every day except Thursday. The highest in the shade was on Thursday, namely, 74°·5. The mean temperature of the week was 59°·5

The General Board of Health.—The new Act for confirming certain provincial orders of the General Board of Health, and for other matters relative to the Public Health Act and the improvement of towns and populous places (12th and 13th of Victoria, c. xciv.), will speedily be enforced. Provisional orders relating to Taunton, Worcester, Ware, Sheerness, Kendal, Durham, Leicester, Chatham, New Windsor, Carmarthen, Glocester, Lancaster, Croydon, Uxbridge, and Coventry, are confirmed. Elections for Local Boards of Health are appointed to take place in the course of the present month. By the 8th section Local Boards of Health, constituted under the Public Health Act, are authorized to contract, for any period not exceeding three years at any one time, with any company or person for the supply of gas or oil, or other means of lighting the streets, roads, and other places of their respective districts, and may provide lamps and other materials, and the expenses shall be defrayed out of the general or special district rates levied under the said Public Health Act. This Act is to be incorporated with the Public Health Act, 1848, and to be called "The Public Health Supplemental Act, 1849."

Society for Relief of Widows and Orphans of Medical Men in London and its Vicinity.—At the last Quarterly Court of Directors of this Society, it appeared from the Report of the Acting Treasurer, Dr. William Merriman, that during the last financial half year, ending on the 20th May, 1849, the following donations had been received, principally at the annual dinner on the [illegible] of April, viz:—H. R. H. the Duchess of Gloucester, 10*l.*; the Society of Apothecaries, 15*l.* 15s.; Sir Charles M. Clarke, Bart., (the President;) Sir Richard Sutton, Bart.; H. Tudor, Esq.; R. Stephenson, Esq.; Dr. Richard Bright; William Pennington, Esq.; Thomas A. Stone, Esq.; Dr. Alexander J. Sutherland, each 10*l.*; the British Medical Association, 10*l.*; Mrs. Tudor; J. T., by Dr. Lever; Dr. Joseph Arnould; Dr. Leman; John Hunter, Esq., (late Acting-Treasurer;) Thos. F. Chilver, Esq.; T. Reynolds Jackson, Esq.; John Propert, Esq.; each 5*l.* 5s.: Sir James M'Grigor, Bart.; William Hunter Baillie, Esq.; Martin Ware, Esq.; each 5*l.*: Rev. Charles Clarke, Dr. Conolly; Dr. Locock; R. Blagden, Esq.; W. S. Burton, Esq.; J. E. Sanderson, Esq.; H. P. Fuller, Esq.; Thomas Hammerton, Esq.; George Beaman, Esq.; James York, Esq.; each 2*l.* 2s.: Rev. S. Wix; Rev. H. Penny; Bransby B. Cooper, Esq.; E. A. Lloyd, Esq.; Charles Law, Esq.; Miss Merriman, Edmund C. Johnson, Esq.; L. Freeman, Esq.; R. Stocker, Esq.; G. J. Squibb, Esq.; John Clarke, Esq.; Charles Alexander, Esq.; Dr. Theophilus Thompson; each 1*l.* 1s.

The Judges and the Medical Profession.—At the close of the Haltwhistle trial, on Wednesday, the Judges of Assize made an order for payment of a fee of twenty guineas to Dr. Glover, the principal medical witness, being the highest amount which it was in their power to award.

MORTALITY TABLE,

(Metropolis.)

For the Week ending Saturday, Aug. 4, 1849.

Causes of Death.	Total	Average of Five Summers
All Causes	1967	1008
Specified Causes	1963	1005
Zymotic (or Epidemic, Endemic, and Contagious) Diseases	1308	302
Sporadic Diseases		
Dropsy, Cancer and other Diseases of uncertain or variable seat	41	44
Tubercular Diseases	164	190
Diseases of the brain, Spinal Marrow, Nerves, and Senses	110	119
Diseases of the Heart and Blood vessels	50	29
Diseases of the Lungs, and of the other Organs of Respiration	85	81
Diseases of the Stomach, Liver, and other Organs of Digestion	64	76
Diseases of the Kidneys, &c	11	11
Childbirth, Diseases of the Uterus, &c	3	7
Rheumatism, Diseases of the Bones, Joints, &c	5	7
Diseases of the Skin, Cellular Tissue, &c.	1	2
Malformations	1	8
Premature Birth and Debility	30	22
Atrophy	18	25
Age	87	43
Sudden	12	8
Violence, Privation, Cold, and Intemperance	23	36
Causes not Specified	4	3

The following is the number of Deaths occurring from some of the more important special causes —

Apoplexy	26	Heart	15	Phthisis	112
Bronchitis ...	30	Hooping cough	33	Pneumonia ...	44
Cholera.........	926	Hydrocephalus	26	Scarlatina . ..	44
Childbirth	1	Influenza	..	Small-pox	11
Convulsions...	37	Liver	10	Stomach	4
Diarrhoea	179	Lungs	5	Teething	12
Dropsy	20	Measles	21	Typhus	39
Erysipelas ...	[illegible]	Paralysis	15	Uterus	...

BIRTHS AND DEATHS.

	Births.	Deaths.	Deaths over Births.
Males	709	993	[illegible]
Females	[illegible]	974	284
Total......	[illegible]	[illegible]	[illegible]

METEOROLOGY OF THE WEEK.

Day	Mean of Barometer.	Mean of Thermometer. Dry	Ditto Dew Point	Difference between the Mean Temperature of the day and the same day on an average of 7 years	General Direction of Wind A.M.	General Direction of Wind P.M.	Amount of Horizontal Movement of the Air. Miles.	Rain in Inches.	Electricity.*
Sunday	29 671	58 9	54 5	— 3 8	S.S W.	S.W.	180	0·19	P. and tension variable.
Monday. ...	29 534	61 4	51·0	— 0 2	W.S.W.	S.W.	190	0 03	P. and tension weak till 9 p.m.
Tuesday	29 731	61·0	48 2	— 0 5	S W.	W.S.W.	140	0 00	P. and tension variable.
Wednesday	29 950	60·1	48 1	— 0·9	W.S.W.	N.W.	85	0·00	P. and tension strong at 9 p.m.
Thursday ..	29·965	62 5	53 5	+ 1 3	N N W.	W.	90	0·00	P. and tension variable till 3 p.m.
Friday	29·870	55·9	50 7	— 5·4	W & N N E	N.	59	0·17	P. and tension strong at 3 p.m.
Saturday .	29 836	56 5	43 5	— 5 1	N N W.	N.E.	15	0·00	P. and tension variable.
Means ...	29 793	59 5	49·9	— 1 9	Variable.		SUM 759	SUM 0 39	

* In this Column, A stands for Active, N. for Negative, and P. for Positive.

TO CORRESPONDENTS.

"Pharmacien"—M. Simon recommends the following method for pills —Liquified white wax, ℥ j, bals copaibæ, ℥ ij pulv cubebæ, ℥ iij For boluses —Liquified white wax, ℥ j, bals. copaibæ, ℥ iij, pulv cubebæ, ℥ vj

"Experimentalist."—The electric current is the most delicate re agent for discovering the smallest quantity of an ioduret, in the same way as the ioduret of potassium is the most sensitive re-agent for shewing the existence of the most feeble hydro electric current

"Krites" is correct in his statement.

"A Subscriber to the 'Medical Times'"—The statements contained in the letter must be authenticated before we could engage to publish them

"Anglican —The Edinburgh College of Surgeons is a "Royal College"

"Reformer '—We cannot state the nature of the Medical Bill which will be introduced into the House of Commons next Session

"L M"—We do not think the subject sufficiently interesting.

"Paul Pry"—We cannot state how many hydropathic establishments exist in this country, under the superintendence of "legally qualified physicians"

"M B Lond"—The Radclyffe Travelling Fellows hold their appointments for ten years, the half of which time, at least, they are to travel in parts beyond sea, for their better improvement In case of vacancy by death, or at the expiration of ten years, a new election must take place within six months

"A Lover of Science"—(1) The power of points to repel a thunder cloud, or to prevent a discharge from it, can be illustrated by suspending on a linen thread, in a series, three loose flocks of cotton, from the prime conductor of an electrical machine As soon as it is excited, the cotton fibres will repel each other, and all stretch towards the table underneath the machine, but on holding the point of a needle a little way under the tufts, the lowest will collapse and fly upwards, so as to cling to the one above; then these two will coalesce with the highest, and the whole will finally adhere to the prime conductor, remaining there contrary to gravity till the needle is removed, when they will all dart downwards, and expand as at first. (2) The advantage of pointed conductors over blunt ones, was established by the decision of the Committee of the Royal Society in 1772, and again in 1777.

"Young Physic."—We consider the ordinary blistering plaster a very dangerous application to infants, and we are not surprised at our correspondent's misfortune. The Acetum Lyttæ is preferable to the Emplastum Canth., but we have found the ammoniacal blistering ointment, first recommended by Dr. Gondret, a most excellent agent; it is made in the following manner:—Lard, 32 parts; oil of almonds, 2 parts; melt them together by a gentle heat, pour them in a melted state into a wide-mouthed bottle, and add solution of ammonia 17 parts, mix by continued agitation. It is necessary to avoid the application of much heat. When well prepared it will produce vesication in ten minutes, and will retain its properties for a month if kept in a well-stopped bottle.

"Jacobus."—1. The botanical history of the matico appears to be but imperfectly known; and there exists a difference of opinion even as to the class of plants to which it belongs. It is said, that the name of the plant is derived from a Spanish soldier, named Matico, who, lying desperately wounded and bleeding to death, in his agony caught, accidentally, some of its leaves, and, by their application, arrested the hæmorrhage and healed the wound. 2. The cold infusion, as it extracts all the active principles contained in the plant, seems the best form for obtaining its medicinal properties. The period required for its preparation need not exceed four hours, as in that time water extracts all that can be taken up in a single maceration, and but little is gained by adding fresh water, as the liquid rapidly acquires its maximum density.

"Physiologist."—The catamenia, under normal circumstances, in all probability proceed from the inner surface of the uterus It has not been satisfactorily determined in what manner the ovarian bodies are concerned in the development of the menstrual phenomena.

"Provincial"—There is no doubt that young children, from use, may take large doses of opium with impunity. We knew a case in which a child took *five drachms* of laudanum in the course of the day without any immediate ill consequences.

"I. B, Ipswich."—We cannot give the information our Correspondent seeks in reference to the Royal Veterinary College We believe the Board of Examiners is composed of twelve members of the Veterinary College, and eight of the Medical Profession. Address a letter to the Secretary.

"LL D"—The Zoosperm has a flattened, oval, and transparent body, terminating in a filiform tapering tail, which together measure from 1 500th to 1,600th of an inch. They are not found in the very young, in the very old, or in those who are labouring under long-standing disease.

"Querist"—The contents of the uterus are as much endowed with special and independent vitality in the earlier, as in the later periods of gestation.

"A Subscriber, North Wales."—In gunshot wounds of a severe kind, the first symptoms do not always indicate the degree of mischief

"Medicus."—We believe the practice of using concentrated infusions is very prevalent amongst chemists and druggists, leading to uncertainty in strength and quality, and the administration of no inconsiderable amount of alcohol The practice we think highly objectionable

"A Constant Reader."—The Pharmaceutical Society is not incorporated

"Gosport" should apply to any respectable philosophical instrument maker.

"G I T"—Organized substances become phosphorescent in the first stages of their decay The phenomenon is ascribed to chemical action

"Edgar, Exeter"—Yes, the radiating powers of different bodies depending more upon the mechanical nature of their surfaces than upon their internal constitution.

"Chirurgus"—Pus has generally a specific gravity of 1 030. The globules are of various sizes, the largest being about twice the size of the globules of the blood

"T. C D."—It is not determined.

"Incog"—We know of no such Institution

"R S.V P., Newcastle."—The Edinburgh degree of M D is not a legal qualification in England to practise as a General Practitioner The Society of Apothecaries, however, would not interfere

"Mr Flott, Bromley, Kent"—Case of fœtal disfigurement received, which shall be published at an early opportunity

Mr Critchett's reply to Mr Skey has come to hand, we decline publishing it, however, as it would prolong a controversy from which the profession would derive no real benefit.

"A Constant Reader and Subscriber."—No.

"Mercurius."—The "Astro Meteorological Table" is hanging before us We will carefully observe it, and be rejoiced to find that it really does afford some "knowledge of the laws by which epidemics are produced and regulated"

"Justitia."—We never publish anonymously personal letters.

We will endeavour to find room for Mr. Baker, of Shirley, near Southampton, next week.

We are obliged to Monsieur Gondret, of Paris, for his flattering communication. We beg, also, to thank him for his valuable works.

ORIGINAL LECTURES.

HUNTERIAN LECTURES

ON THE

GENERATION AND DEVELOPMENT OF THE INVERTEBRATED ANIMALS.

By RICHARD OWEN, F.R.S.,

Hunterian Professor and Curator of the Museum of Royal College of Surgeons, Corresponding Member of the Institute of France, &c.

[Reported expressly for the "Medical Times," and revised by the Lecturer.]

LECTURE XI.

GENERATION OF EPIZOA AND CIRRIPEDIA.—General characters of these parasitic Articulata.—Arrested development of the dwarf-males of Epizoa.—Male organs of Achtheres.—Complex female organs of Epizoa. the external ovisacs.—Development of embryo and retrograde metamorphosis of the young into the adult animal.—Organs of generation of the Cirripedia conflicting opinions respecting them: they are androgynous.—Dendritic testes: glandular sperm-ducts and long proboscidiform penis.—Ovaria, their different position in sessile and pedunculate Cirripeds. extreme metamorphosis in this class.

MR. PRESIDENT AND GENTLEMEN,—The phenomena of the generation and development of the animal kingdom, so far as we have traced them, must, already, have impressed us with the inadequacy of the knowledge of the nature of an animal in its final and complete stage of existence only, for the determination of its affinities and proper place in the scheme of Nature. This fact was demonstrated with regard to many of the previous objects of our study: it is still more obvious in respect of the class of animals which will occupy our attention to day. I may also here observe, that whilst it is essential to trace the metamorphoses of each species in order to rightly comprehend its true nature, the study of the generative organs shows that we cannot rely on them alone for a system of classification. We saw, for example, that some of the anellides combined both male and female organs in the same individual, while others had those organs separate and peculiar to distinct individuals; one order was androgynous, another diœcious. In the earth worm we had evidence of a certain concentration of the generative system within a few segments, and in the leech, of their more general diffusion and subdivision; but this vegetative character was most remarkable in the diœcious annellides, in which almost every joint presents either its pair of testes or of ovaria, according to the sex of the individual. Then, in reference to the progress of development of these worms, some transitorily manifested the form and character of one class, inferior to them in the animal scale, and others those of another lower class; thus, the embryo leech represented the planaria, whilst most of the higher annellides come forth from the ovum more like infusorial animalcula. The further progress of development was interesting, since it reminded us of that singular propagation of certain Acalephæ, in which the larva produced other larvæ like itself, before it was metamorphosed into the final form of a medusa. For the ordinary mode of growth of the Annellide, by the development of joint after joint, one precisely similar to the other, throughout a series of, perhaps, hundreds of joints, with only the first and the final segments distinguished by any peculiar characteristics,—all this process of growth looked very like an incomplete parthenogenesis; but this mode of production is fully manifested by the successive casting off of groups of segments, with the characteristic head and tail, as in the instances of gemmation of the naids and nereids last described; the young annellide from the ovum propagating at first by gemmation and spontaneous fission; and the individuals so produced developing the ordinary organs of generation.

The low organized articulated classes, which succeed the annelides in the progress upwards, undergo such extraordinary metamorphoses before attaining their mature state, as to mask their true relations, not only to the class, but to the primary division of animals to which they belong. This is especially the case with the creatures whose organization and development will form the subject of the present lecture.

This elongated, cylindrical, unarticulated Lernæa, (showing the preparation,) whose smooth soft body seems devoid of any other appendages than the two long slender ovisacs, might be regarded as one of the Entozoa of the fish to which it is attached, and on the nutrient juices of which it subsists.

This barnacle, imprisoned in its conical calcareous shell, and cemented to the stone on which it grew, might seem as naturally to belong, like its neighbour the limpet, to the testaceous Mollusca.

How minute and accurate must have been the investigation of the forms and structures of these animals, at every stage of their existence, before the truth could be discerned, that they were more nearly allied to one another than to any other class of animals! The most vivid imagination of the boldest generaliser or speculator upon the unity of organisation in the Animal Kingdom could never have divined that the Lernæa and the Cirripede were at one period of their lives locomotive animals, swimming about under very similar forms, and by almost identical natatory instruments,—not under the common ciliated infusorial form, in which the young of certain Entozoa and Mollusca first enter into active life; but with symmetrical pairs of jointed setigerous legs like those of the Annellides and the lower organised Crustaceans, to which the *Epizoa* and *Cirripedia* are, in fact, essentially and most closely allied, although they end their career as sedentary animals under such different, such diversified, and, as regards the Epizoa, such grotesque forms.

These metamorphoses lead to very different results from those of the Medusa and Comatula. The Epizoa and Cirripedes acquire increase of bulk and organs of generation; but, in every other respect, the varied course of their development ends in a retrograde movement. Their development would seem to have been at first, as it were, hurried forward at too rapid a pace, and the young parasite, starting briskly into life, ranging to and fro by the highest developed natatory organs we have yet met with, and guiding its course by visual organs, must lose its eyes and limbs before it can fulfil the destined purpose of its creation.

The *Epizoa*, by which name we recognise the singular class of animals which infest the skin, the eyes, and the gills of fishes and other marine animals,—these external parasites, which are as numerous as, and perhaps more numerous than, the whole class of fishes,—are distinguished in their mature state by a body of a more or less elongated or sub-cylindrical form, defended by a smooth, semi-transparent, parchment like integument, having a more or less distinct head, and generally a pair of long cylindrical ovisacs, dependent from the opposite extremity of the body.

In this low organized class of Articulate animals, as in the classes which commence all other great primary groups, there is an extensive gradation of forms by which we pass from species slightly elevated above the cavitary Entozoa to the true Crustaceans.

The lowest or most simple Epizoa adhere by a suctorious mouth, and traces of extremities exist only in the form of a few minute pairs of obtuse inarticulate processes. In the highest organised species, the adhesion is effected by jointed mandibles with terminal hooks or forceps. The head, in most of the species, is found, when closely examined, to present a pair of jointed antennæ, which, contemplated by the experienced naturalist, cognizant of the value of such characters, might excite the suspicion that relations to higher *Articulata* than the Anellides were hidden under the bloated form which indolent and gluttonous habits had superinduced upon the pendent parasite. Observation of it during its early and independent state has proved this to be actually the case to an extent which could scarcely have been anticipated.

The Epizoa are of distinct sexes: the male appears, always to retain his freedom, and is, perhaps on that account, singularly smaller than the female, generally not more than a fifth part of her size, consequently, for a long time, the males escaped recognition. They adhere to the vulva with one antenna usually inserted therein. The individuals of the productive sex, distinguished throughout a great part of the year by their pendent ovisacs, are the examples usually seen of this curious class; and in these I shall proceed to describe the anatomical characters of the Epizoa.

The body, independently of the ovisacs, is generally divided into two segments: the anterior and smaller division sometimes supports a distinct head, but more commonly corresponds with the cephalothorax of the Crustacea: the larger segment is called the abdomen, and in it the ovaria are developed. You will not unfrequently find adhering to the eye of the sprat an Episoon or Lernæa, which is a nearly allied species of the same genus (*Peniculus*), as the specimen figured and described by Nordmann, which infests the boar-fish (*Zeus aper*). In the *Peniculus fistula*, the head is oval, and notched anteriorly, each division being armed with an inwardly bent hook, or rudimental jaw. The mouth is immediately beneath these, in the form of a circular orifice, supported by a short cartilaginous tube. At the posterior contracted part of the head are two pairs of short, oval, flattened processes: a constriction or neck separates them from the thorax, at the commencement of which there is a third pair of similar rudiments of locomotive appendages. The thorax is round, and separated by a constriction from the abdomen, a fourth pair of appendages being developed from the interspace. The alimentary canal is much contracted in the neck and thorax, but expands in the abdomen into a moderately wide, and uniform intestine, which again slightly contracts to terminate by a distinct anus at the hinder extremity. The alimentary canal has the same simple straight course in other species of Epizoa. One cannot be surprised at this correspondence with its general condition in the cavitary Entozoa, when the similarity of their easily assimilable nutriment is remembered. The intestine, is, however, complicated in the Epizoa, with a conglomerate or minutely-lobed glandular mass, developed from nearly the whole extent of the abdominal tract of the intestine, and which may fulfil the function of a liver.

In some species which attach themselves to the gills and the like favourable positions for an abundant supply of the most nutritious fluid, the body is frequently deformed, as it were, by excessive growth, and cæcal productions from the simple straight intestine are continued into the prolongations of the thoracic or abdominal walls. The Nicothoe, a small parasite of the gills of the lobster, is an example of this condition of the digestive organ. The first segment of the body is produced into two lateral symmetrical wing-shaped lobes, each four times the length of the segment to which they are attached, and they contain corresponding cæcal prolongations of the straight intestine.

In the species of Lernæa exhibited (*Peniculus fistula*), the abdomen contains, in addition to the alimentary canal, two slender tubes, the ovaria and oviducts, commencing by blind extremities near the anterior part of the dilated intestine, and continuing with a slightly wavy course to terminate at the two apertures, to which the ovisacs are attached.

These ovisacs singularly resemble the seed-capsules of certain plants, especially the *cassia fistula*, being divided into a series of cells or chambers by transverse septa, placed at regular distances. Each cell contains an elliptical or lenticular ovum.

Two slender white filaments running almost parallel with, but at a distance from, each other, through the whole length of the under surface of the abdomen, nearer the margins than the middle line, form the chief and most conspicuous part of the nervous system.

The Epizoa differ from one another in their mode of adhering to the fish they infest. some stick fast by a suctorial mouth; others by processes that grow from the head; but the most common mechanism of adhesion in the Epizoa is a circular sucker developed upon the confluent extremities of a pair of obscurely jointed tubular feet, the third thoracic limbs of the larva,—as in this *Lernæopoda*, of the shark, (showing No. 280 A.) and, as in the *Achtheres* of the Perch, the *Tracheliastes* of the Chub, &c. In the last-named parasite, which may

be found adhering to the fins of the Chub in the months of October and November, the head and thorax are confluent, unless the segment to which the bases of the before-mentioned feet are attached be held to represent the thorax. The abdomen is as usual, the largest segment. The mouth is a circular aperture, fringed with minute short bristles on each side there is a maxilla dentated at the inner margin, and terminated by a bifid hook. The antennæ are represented by two short lancet-shaped processes, terminated at the apex by a few extremely short bristles. The most conspicuous appendages of the head are, however, a pair of mandibles, which consist of two obscure joints, the second of which has a bifid extremity; the outer division is armed by a strong curved spine, which is opposed to two short straight spines; the inner division is tipped with four small spines. Immediately behind the large tubular prehensile process is a short rudimental extremity, supporting a moveable hook which is opposed, as in the mandibles, by two short spines. The muscular system is sufficiently conspicuous in the head of this Epizoon in the form of distinct fasciculi of fine fibres.

In this *Penella* (showing No. 286) the head resembles a cauliflower, swelling out into a globose groupe of slightly branched and obtuse wart-like processes, which must have grown after the head had become imbedded in the flesh of the fish to which it is attached. Two long tubular processes or extremities are developed at the junction of the thorax with the abdomen; but their extremities are free, simple, slightly attenuated, and obtuse. On the under surface of the body, in the interspaces of these appendages, there are four pairs of simple, small, oval, flattened feet; their pointed extremities extend only half way to the sides of the part of the body to which they are attached. The body is prolonged beyond the ovisacs in the form of a tail, which is provided on each side with a series of sixteen slender cylindrical appendages, close set in an oblique position, like the barbs of a feather, or the vane of an arrow, whence the specific name *Sagitta*, given to this parasite. The caudal lamellæ of the higher Crustacea would seem to be here sketched out.

The anatomy of the Epizoa has been most elaborately traced out by Nordmann in the parasite of the common perch, called *Achtheres*. In this species two lateral teeth project from the circular mouth, the labial margin of which is fringed with bristles. Here, also, we have mandibles and maxillæ, the latter provided with palpi; and, besides these, a pair of jointed antennæ, each terminated by three setæ. Now, this is a very important external character; it is the first instance of true jointed antennæ that we have met with in our ascending survey, and the acute zoologist might be led to surmise, from their presence, that relations of higher affinity were masked beneath the general character of the vermiform body of the parasite, and we shall be able to raise the mask as we trace the metamorphoses of the species.

The circulating fluid consists of a clear plasma, with granular corpuscles of different forms and sizes. The pulsatile vasiform heart may be seen at the middle line of the cephalo-thorax propelling the blood, forwards by rythmical contractions. Two canals pass from it into the hollow prehensile feet. The rest of the blood is distributed to the head, and along each side of the commencement of the alimentary canal to the under part of the body, where it passes backwards in the vessel which accompanies the intestine.

The ovaria at first appear in the form of a slightly flexuous, long, blind tubes, sacculated along one side. As the ova are developed, the ovarium takes on the form of a bunch of grapes, and occupies the whole cavity of the abdomen external to the intestine: each ovarium terminates by a triangular, and somewhat prominent orifice, to which the external ovisac is appended.

The Epizoa are remarkable for the disproportionate size of the sexes. In the minute male, the testes are indicated by four dark coloured and finely granulated bodies situated in the posterior segment or abdomen. He appears like a mere parasite of the female to which he adheres, near the vulva, and having usually one antenna inserted into that aperture.

The first remarkable circumstance in the natural history of the aquatic Epizoa is the constancy with which particular species infest particular fishes or crustacea. And how, it may be asked, can creatures so devoid of means of transport, nay, in most instances, of the power of detaching themselves from the animals whence, like fœtuses, they derive their means of growth, originally reach the precise species of animal and organ to which they are habitually attached?

Are certain of the ova accidently retained near the parent after the rupture of the ovisac, and there grow, like seeds of plants fallen in a favourable soil Or, do some of the liberated ova, by a happy fortuity, arrive at the appropriate organ of the appropriate species, and are they there accidentally retained until the prehensile instruments are developed? Such hypotheses may be permitted in reference to the ova of an Entozoon which are developed by millions, and need only to be swallowed by the animal in whose intestine they are adapted to exist; but the ova are too few in the Epizoa, and the parts to which they are attached are too exposed, to allow of the supposition that their parasitic growth is dependent on such accidental circumstances.

MM. Audouin and Edwards appear to have been the first to suggest that the sedentary Lernæan Epizoa might enjoy at a previous period of existence locomotive powers, and the hypothesis was supported by the discovery, made by Dr. Surriray, of the embryo of a *Lernæocera*, still in the ovum, which, instead of resembling the parent, presented the characters of a locomotive Entomostracous monoculous Crustacean.

The singular metamorphosis thus indicated has been traced out and generalised by the careful observations of Dr. Nordmann. The following is the general course of development of the Lernæan parasite of the Perch.

The female Achtheres is devoid of ovigerous appendages in the months of December, January, and February. In March they are developed by the eversion of a membrane prepared in the ovarian sac. Each sac hangs by a short tubular peduncle which is in direct communication with the short oviduct. The outer membrane of the ovum or chorion is moderately thick and transparent; the inner membrane is thinner, and includes both the vitelline mass and albumen. The yoke forms the largest proportion of the contents of the ovum, and is finely granular. One of the first parts of the embryo discerned by Nordmann was the dark ocellus. A pair of cylindrical processes shoot out from each side of the fore part of the embryonic or vitelline mass; and a pencil of hairs is developed from the extremity of each process. The body slightly elongates; the exterior albuminous fluid increases, the inner membrane expands, and the outer one bursts and is shed. The movements of the imprisoned embryo increase in force until it bursts the remaining membrane of the ovum, and escapes from the ovigerous sac. It then presents the form represented in the diagram. The locomotive organs are [illegible] pairs, and consist of tubular processes of the tegument, including a fasciculus of bristles. You perceive that these locomotive organs present the type of the Annellida. And since we were led from the Infusoria to the Polypi, because the ciliated larvæ of these resembled the monads, and since we passed from the Polypi to the Acalephæ, because these in their larval state were polypes, so we have now the same indication from a transitory step in development for passing from the Annulata to the Epizoa, and for ranking these parasites on a higher step of articulate structure; and not with the Entozoa, where Cuvier and Lamarck left them.

In the course of half an hour the young *Achtheres* undergoes its second stage: the first integument is loosened by the formation of a second beneath it, which now incloses a body, altered in its shape and in the number and nature of its appendages.

The process of moulting lasts from eight to ten minutes. A great proportion of the original germ-mass remains unaltered, surrounding the simple intestine, and extending into the bases of the tubular feet of the larva. The *nisus formativus* proceeds to operate on this material, but on a modified plan. The second body, which is formed inside the husk of the first, now cast off, is divided into an anterior and a posterior segment, the latter consisting of four joints. A pair of four-articulate setigerous antennæ diverge from the anterior part of the body. Between the antennæ is the large single median eye, as in the monocular Entomostracous Crustacea. The little Epizoon is now provided with five pairs of feet, the first three pairs terminate by a simple hook; the last two pairs are bifurcated, one division being hooked and prehensile, the other tubular and emitting tufts of bristles; these natatory feet strike the water together, and propel the body forward with a jerk; they are aided by the last segment, which is terminated by four setigerous tubercles.

The antennæ probably serve to indicate to the young parasite its appropriate object, to which it then proceeds to attach itself. The first pair of feet is approximated towards the mouth, and forms the uncinated mandibles. The second pair of feet increases in size, and the terminal hook enlarges; they serve to seize and hold on to the surface of the fish selected. The feet of the third pair lengthen and unite together to form a cartilaginous circular sucker, and permanently anchor the parasite to its prey.

The two sexes are alike in their young and locomotive state: the male at its final metamorphosis retains the first pair of feet as mandibles, very similar in form to those of the female: the second pair is shorter and thicker: the legs of the third pair always remain separate from each other, and consists usually each of two large joints, the last one terminated by a claw. The posterior natatory feet disappear in both sexes; and, with the loss of these instruments of locomotion, the eyes, also, are blinded and absorbed.

Before proceeding to the *Cirripedia*, I would offer a few remarks on the real nature of the changes just described. They are commonly spoken of under the same name as that given to the changes of insects; and perhaps they differ only in degree. The metamorphosis in all insects is attended with the casting off of a certain proportion of the precedent individual, called the "moult," or the new animal may be said to creep out of the old, from which the process is called the "ecdysis." With regard to the so-called metamorphosis which issue in the succession of a fixed, blind, sessile multivalve barnacle to a free-swimming crustacean with pedunculated eyes, or in the succession of a rooted vermiform parasite to a natatory animal with articulated setigerous limbs. When these phenomena are closely traced, they are seen to depend in a greater degree upon the action and coalescence of retained cells, than upon a change of form of pre-existing tissues. If the development of the ovum in the pedunculate ovarian sac of the low crustaceous external parasite of a fish be closely traced, the peripheral cells of the germ-mass are seen to combine and coalesce to form the smooth transparent skin of the embryo Lernæa, from which also tubular processes extend in two (*Achtheres*) or three (*Lernæocera*) pairs, including setæ which project from their extremities.

In the *Lernæocera* the anterior pair is directed forward like antennæ, but they are unjointed; and the head is further indicated by a coloured eye-speck. Another layer of germ-cells have perished, as such, in order to form the parietes of a straight and simple intestine, with a mouth and anus. Thus the annelidous type is first manifested.

But a large proportion of the minute germ-cells remain in the wide abdominal interspace, amassed around the alimentary tube, and aggregated in groups at the base of the tubular and setigerous feet. With respect to the latter, we might say that the same provision is made for the reproduction of the limbs as is retained throughout life in regard to those of the lobster. In the larval Lernæa, however, those reserve-cells commence the formation of new limbs irrespective of any injury to the old ones. The whole peripheral stratum of the retained germ-mass,

in contact with the primary integument, is transformed into a new integument. These germ-cells have increased and propagated at the expense of the aliment assimilated by the alimentary canal. The formation of the new integument and of the new feet proceeds connectedly and contemporaneously; but the new parts are not moulded upon the inner surface of the old ones. The plastic force has changed its course of operation. A hinder segment of the body is added to the front one, which answers to the whole of the body of the first larva. If antennæ did not before exist, a jointed pair is now developed. Instead of two pairs of tubular setigerous limbs, three pairs of uncinated prehensile limbs are developed from the anterior or cephalothoracic segment, and as many pairs of articulated setigerous limbs from the abdominal segment. New muscles, new nerves, and new vessels are formed for the support and exercise of these various instruments. The outer case, and all that gave form and character to the precedent individual, perish and are cast off; they are not changed into the corresponding parts of the new individual. These are due to a new and distinct developmental process; rendered possible through the retention of a certain proportion of the unchanged germ cells. The process is essentially the same as that which developes the cercariform larva of the Distoma within the gregariniform one, or the external bud from the Hydra, or the internal bud from the Aphis. It is a slightly modified parthenogenesis; and the phases by which the locomotive annelidous larva of the Lernæa passes through the entomostracous stage before retrograding to the final condition of the oviparous, limbless, bloated, and rooted parasite, are much more those of a metagenesis than a metamorphosis.

I now proceed to the second class of Articulated animals, which I here groupe with the Epizoa.

Many of the *Cirripedia* are parasitic animals, like the *Epizoa*, but are dependent upon the organized bodies to which they are attached for their place of residence, not for their food; those species which do not infest other animals are attached to sea-weed, floating timber, or rocks. The Cirripedes are symmetrical animals, with a soft, inarticulated body enveloped in a membrane; they are provided with six pairs of rudimentary feet, obscurely divided into three joints, and terminated each by a pair of long and slender many-jointed, ciliated tentacles, curled towards the mouth, and thence giving origin to the name of the class. They are androgynous.

The mouth is, in most species, provided with a broad upper lip, with two palps or feelers, and three pairs of dentated and ciliated jaws. The opposite extremity of the body is prolonged into a slender, many-jointed, ciliated caudal appendage, which is traversed by the generative canal. The mouth is situated near the anterior extremity of the body, which is modified to form the organ of attachment of the animal. It is sometimes produced to a considerable extent, and is of contracted diameter, forming a long and flexible peduncle; sometimes it expands at once into a broad disc or basis of adhesion. The Cirripedes are divided according to these modes of attachment into two primary groups, viz., the pedunculated, or *Lepadoids*, and the sessile, or *Balanoids*. The first are commonly known by the name of Barnacles; the second by that of Crown-shells or Acorn-shells.

Most of the Cirripedes have their visceral cavity protected by a calcareous shell composed of many pieces; but in some, as the *Otion*, the membranous or pallial investment of the viscera is protected only by an elastic, horny sheath, continued from the epidermal covering of the peduncle. Two small calcareous bodies, developed in the substance of the outer envelope, just above the brachial fissure, are the sole rudiments of a shell in this genus, the horny covering of which is produced at its free extremity into two cylindrical processes. In the genus *Cineras*, the external tunic is strengthened by five calcareous bars, two at the ventral fissure, giving outlet to the arms, two along the terminal margin of the tunic, and one along the dorsal aspect. In the common Barnacle (*Lepas anatifera*), the calcareous matter extends from five centres, so as to protect the whole of the body, which is appended to the peduncle; the cephalic pair of valves, or that which is attached to the peduncle and defends the head, is the largest; the single dorsal piece has been compared by Cuvier, who retained the Cirripedes among the Mollusca, with the symmetrical dorsal-valve in the shell of the Pholas. All the valves are strongly marked with lines of growth, formed by successive additions to their margins, as in the shells of Mollusca. In the Pollicipes, there are other smaller calcareous plates arranged round the junction of the body with the peduncle.

All the sessile Cirripedes are strongly defended by a multivalve conical shell. The base of the shell is usually formed by a calcareous plate, and the walls are apparently divided into twelve conical compartments, six of which rise from the margin of the base, and terminate in a point at the free margin of the shell; whilst the other six, in the form of inverted cones, occupy the interspaces of the preceding series. This calcareous citadel is divided into six pieces by six sutures; the symmetry or bilaterality of the shell is determined by the dorsal piece being actually what each of the six pieces of the first series seem to be, viz., a simple triangular plate with its apex upwards; the two lateral pieces on each side consist each of the erect and inverted triangular piece closely united together; the ventral piece consists of one erect and two inverted triangular pieces, united inseparably in the mature Balanus. The whole shell has a cellular and organised texture, and its gradual expansion is provided for by the successive growth and calcification of processes of the mantle which penetrate the uniting sutures. The cone is lengthened and widened below by successive additions to its base, and is widened superiorly by the gradual increase in breadth of the wedge-shaped pieces of the second or inverted series. In the *Tubicinella*, (showing Prep. No. 279,) a parasitic balanoid of the whale, the compound shell is a long subcylindrical tube, reminding us of that of an amphitrite, but the animal, in both sessile and pedunculate Cirripedes, is fixed to the bottom of the shell with the head downwards.

Although the Cirripedes in their mature state possess no distinct organs of sight or hearing, yet they are endowed with sufficiently acute sensation to retract their cirri, and, if sessile, to close their opercules, at the sound or vibration of an approaching footstep; the same actions indicate that they appreciate the atmospheric movements produced by the approximation of the hand, even, according to Dr. Coldstream, when it is not brought nearer the shells than twelve or fourteen inches.

The marine animalcules brought to the mouth by the currents of the cirrigerous feet and seized by the lateral jaws, are conveyed by a short œsophagus to a dilated stomach, which receives the ducts of two salivary glands. Groups of hepatic cæca are developed from the walls of the stomach. The intestine is bent upon the stomach, and tapers with a slightly sinuous course to terminate at the base of the caudal appendage. According to M. St. Ange, the intestinal canal of the *Lepas* contains a membranous tube, which is continued above into the secerning cells in the walls of the stomach; it may be the detached epithelium; it has been deemed analogous to the typhlosole in the earth-worm's intestine.

A dorsal vessel and circulating currents along a double canal in the arms have been recognised; but the circulating system has not been thoroughly investigated. In the pedunculated Cirripedes slender conical branchiæ are attached to the base of the maxillary foot, and to that of some of the cirrigerous feet. The ordinal distinction between the pedunculated and sessile Cirripedes is not less strongly manifested by their outward forms than by the branchial organs, which, in the Balanoids, consist of two or more broad, transversely plicated, vascular membranes, attached to the inner surface of the mantle.

The organs of generation in the Cirripedes have been differently described by different authors. If the Cirripede be diœcious, and the males be free and of a disproportionately minute size, as in the Epizoa and in most Entomostraca, to which the Cirripedes are closely allied, we must then regard the organs of generation in the large attached individuals under a different and more simple point of view than they have hitherto been described. The males are, however, wholly hypothetical. In the pedunculated Cirripede, a large granular, glandular mass covers the viscera immediately beneath the muscular tunic of the body, extending from the mouth to the anus. Its numerous ducts successively unite into three or four principal trunks, which terminate in a lateral receptacle at the side of the intestine. In *Lepas* a duct is continued from this receptacle on each side, which ducts unite to form a common tube, which passes through the canal of the extensile tail. In *Otion* the two canals are continued distinct to the extremity of the pro- The walls of the receptacle, which is the common termination of the ducts of the lateral glandular body, are thick and glandular.

According to Cuvier and Dr. Burmeister, these glandular parietes of the ducts of the gland constitute the testis, and the glandular mass itself is the ovary. The ova are impregnated in the course of their passage through the common receptacle, and the duct continued from it.

On the diœcious hypothesis, we must suppose that the large fixed individuals are females; that the ovarium exists under the form and situation in which it is described by Cuvier; and that the supposed testis, which makes its appearance in a very questionable form as a glandular tunic of the oviduct, is actually a nidimental gland, and adds an exterior covering to the essential part of the ovum.

But ova are certainly developed in the pulpy substance of the peduncle. These, however, in Cuvier's view of the organs, are supposed to be impregnated ova, conveyed by the extensile tail or ovipositor into the cellular texture of the peduncle. On the diœcious hypothesis, the ova of the peduncle must also be supposed to be conveyed by the ovipositor from the lateral ovaria, but to be impregnated by the males *in transitu*.

The organs of both sexes are, however, combined in the same individual: the part described by Cuvier as the ovarium is the testis; the dilated canal into which its ducts converge is a spermatic receptacle; its glandular walls a prostatic organ; and the terminal flexible and extensile tube the penis. The true ovarium is situated in the peduncle, to the soft tissue of which the ova unquestionably adhere when first developed. It is here that they acquire the azure or violet-coloured yolk; and from this part they subsequently pass into two leaf-shaped receptacles, placed one on each side, between the body of the animal and the lining membrane of the shell. The ova are doubtless impregnated in attaining this situation: here they increase in size, and change their colour to pink and then to white: the embryos are here developed, and, after their escape, all traces of the temporary receptacles disappear.

When we reflect on the uniformity of distribution of the Cirripedes, particular species being attached to particular objects, and these not always stationary and extended bodies, but often living animals, and sometimes animals with quick powers of locomotion; when we further call to mind that they adhere, not by prehensile jaws or feet, but by the growth of a pedunculated root, or by the gradual application of a layer of cement forming the base of their shell, we must be convinced, that the organisation and properties of the sedentary Cirripede are wholly inadequate to afford an insight into the process by which it acquired its resting place, and that a knowledge of its previous career from the time of quitting the egg is not less essential to an explanation of the subsequent attachment of the *Cirripedia*, than it was for the elucidation of corresponding phenomena in the *Epizoa*.

No fortuitous dispersion of ova giving origin at once to a pedunculated or sessile multivalve can account for the invariable attachment of the *Coronula* to the skin of the whale, and of the *Otion* to the shell of the parasitic *Coronula*; of the *Chelonobia* to the carapace of the turtle, of the *Cineras* to the tail of the sea-serpent, or of the imbedding of the *Acasta* in the substance of a sponge. These re-

markable phenomena have been explicable only since the discovery of the singular metamorphoses which the Cirripedes undergo, and of the power which they possess, at one period of their existence, of attaining and selecting their peculiar and appropriate place of permanent abode. Nor were the real nature and affinities of this singular shell-covered class of animals less problematical and doubtful before the phenomena of their development had been traced out.

Mr. V. Thompson, whose minute and careful researches into the natural history of marine animalcules have thrown much light on the structure and development of radiated animals, was also rewarded by the discovery of the metamorphosis of the Cirripedes. On the 28th April, 1823, he captured, with a small muslin towing net, a number of translucent animalcules, about the tenth of an inch in length, of a sub-elliptic form, slightly compressed, and of a brownish tint; the body of each was defended by a shell composed of two valves, joined by a hinge along the back, and opening along the opposite margin for the protrusion of a large and strong anterior pair of limbs, provided with an adhesive sucker and hooks, and of six pairs of posterior jointed members, terminated by a pencil of bristles. These natatory limbs acted in concert, so as to cause the animal to swim by a succession of bounds like the water-fleas (*Daphnia*). The body was terminated by a short tail, composed of two setigerous joints. A pair of pedunculated compound eyes was attached to the anterior and lateral part of the body. Other specimens of this little seeming crustaceous animal were taken on the 1st of May, and preserved alive in a glass vessel of sea-water. On the night of the eighth two of them had thrown off their outer skin, and were firmly adhering to the bottom of the vessel, where they rapidly assumed the form of the young of the sessile Barnacle called *Balanus pusillus*. The sutures between the valves of the shell and of the operculum were visible, and the arms, though not yet perfectly developed, were seen moving within. The eyes also were still perceptible, although the principal part of the black colouring matter appeared to have been thrown off with the exuvium. On the 10th of May another individual was seen in the act of throwing off its exuvium, and attaching itself to the bottom of the glass. As the calcification of the shell proceeds, the eyes gradually disappear, and the visual ray is extinguished for the remainder of the animal's life. The arms at the same time acquire their usual ciliated structure.

The *Lepas*, in its transitory locomotive stage, does not, like the young *Balani*, resemble the bivalve *Ostracoda*, but rather approximates to the genus *Cyclops*. It has a single median sessile eye-speck, three pairs of members, the most anterior of which are simple, the others bifid. The back of the animal is covered, like the *Argulus armiger*, by an ample shield, terminating anteriorly in two extended horns, and posteriorly in a simple elongated spinous process.

The discoveries of Mr. Thompson have been confirmed by Audouin, Wagner, and Burmeister. The latter entomologist divides the development of the Cirripedes into five stages. The first is that of the ovum; the second of the locomotive embryo; the third when the young attaches itself, and becomes encased in a shell; in the fourth stage it gradually assumes the character of the adult; and the fifth stage is that of perfect development.

The locomotive embryo is developed before the ovum quits the parent; the shell, in the first stage of its growth, is coriaceous, and formed of one piece, which is placed on the back. The organs by which the young animal fixes itself are the long antennæ, or setigerous legs, situated near the mouth; in the *Lepas anatifera* the peduncle is formed by a sac-shaped process of the mantle filled with yellowish matter.

The general course of this metamorphosis, and the enjoyment of locomotive and visual organs for a brief period, which are wholly denied to the full-grown animal, characterise a condition which is closely analogous to that of the young in the Epizoa, in the Trematoda, and in the Polypi.

LECTURES ON THE CHEMISTRY OF THE POISONS; OR, ON PRACTICAL TOXICOLOGY.

SHOWING THE APPLICATIONS OF CHEMISTRY TO THE DISCOVERY OF CRIME.

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LECTURE V.

Action of sulphuric acid on animal substances.—On strong solutions of albumen.—On weak solutions of ditto.—On the serum of blood.—On mucous membranes.—On woollen cloth.—Composition of sulphate of albumen.—Tests for sulphuric acid.—Its taste.—Its action on litmus.—Its action on the soluble salts of lime, lead, barytes, &c.—The fallacies of these tests.—Presence of sulphates in the liquid.—Modes suggested for the recognition of free sulphuric acid.—Quantitative determination of this acid.

GENTLEMEN,—We will continue our inquiries into the action of sulphuric acid on organic compounds; and, before we proceed to investigate its influence on animal substances, I ought to mention, that strong sulphuric acid has the power of striking a blood-red colour with salicine, a neutral substance which is obtained from willow bark; it even exerts this action on the inner surface of the willow bark itself; but this character, although it is a very peculiar one, is not of any value in a medico-legal point of view; for an acid which has a specific gravity of 1616, and which contains as much as 62 per cent. of anhydrous acid, is far too weak for the manifestation of this peculiar re-action.

Again: you will find, that when strong sulphuric acid is heated on a few crystals of gallic or tannic acid, it acquires an orange red colour; but, as in the last case, the acid must be concentrated, in order to obtain this effect. We will now examine the mode in which sulphuric acid acts on animal substances.

(a) *Action of the acid on strong solutions of albumen*; that is, on the undiluted white of egg. If oil of vitriol, having a specific gravity above 1830, be poured on this kind of albumen, the acid will instantly coagulate it, and convert it into a white opaque mass, which has the appearance of boiled white of egg. In a few minutes, however, the albumen will begin to blacken along the line where it touches the oil of vitriol; and, if we allow the mixture to stand for an hour or so, the albumen will dissolve and form a yellowish brown liquid, having the peculiar odour of sulphurous acid. This re-action is very manifest, even with a solution of sulphuric acid, which has a specific gravity as low as 1546, and which contains no more than 55 per cent. of anhydrous acid; but, in such a case, the acid requires a longer time for the subsequent solution of the albumen. Acids which are weaker than the preceding, are deprived, in a great measure, of their solutive power; for, if we take an acid whose density is not greater than 1400, although it will instantly coagulate the undiluted white of egg, yet the coagulum will retain its white colour, and remain undissolved, even after the lapse of twenty-four hours.

With regard to the point at which the dilute acid loses its power of coagulating white of egg, it may be said, that, an acid having the density of 1·136 requires about fifteen minutes for the full manifestation of this change, and that a weaker acid, as for example, one having the specific gravity of 1·005, and which contains only 0·41 per cent. of dry acid will act upon strong liquid albumen and partially coagulate it after a period of about two hours. Acids which are weaker than this are almost entirely without action on albuminous compounds.

(b) *Action of Sulphuric Acid on Weaker Solutions of Albumen*—that is, on solutions which are made by mixing the white of one egg with an ounce of water. The albumen of this solution is instantly coagulated by acids which have a specific gravity above 1·390; but weaker acids require time for the full manifestation of this action; and solutions of sulphuric acid lose their power of precipitating albumen when they are diluted so as to contain only about 1 per cent. of dry acid—that is when they are diluted so as to have a density below 1010.

(c) *Action of Sulphuric Acid on the Serum of Blood.*—The operation of oil of vitriol upon serum is very similar to that which occurs when the acid is added to strong solutions of white of egg. For example—If we use an acid which has a density above 1830, it will instantly coagulate, then carbonise, and in a few minutes dissolve the albumen o serum, so that the last-named action takes place a little more quickly than it does in the case of oval-bumen. The same change occurs when we employ weaker acids, as, for instance, those which have a density as low as 1390; but they require time for the manifestation of this effect. More dilute solutions of sulphuric acid act merely as coagulants, and they even lose this power when they are reduced to the specific gravity of 1008, that is when they contain only about 0·8 per cent. of anhydrous acid.

(d) *Action of the Acid on Dead Mucous Membrane.*—Almost every kind of dilute sulphuric acid instantly produces a whitening effect when it is poured upon a mucous surface. This coagulating action is well marked when we employ an acid which has a density of about 1500. On such occasions the mucous membrane immediately acquires an opaque pearly white appearance, which strongly resembles a coating of white paint. Acids which are weaker than the preceding merely render the surface of the membrane dull and opalescent. On allowing a tolerably large quantity of sulphuric acid to remain on the membrane for a few minutes, you may remark that the strong acids rapidly corrode and carbonize it, and that the weak ones produce a darkening effect only when the tissues of the part are gorged with blood. This effect does not result from any carbonizing power possessed by the dilute acid, but from the property which they have of acting upon the colouring matter of the blood, and of converting it into a dark grumous-looking compound.

In all cases in which oil of vitriol is allowed to act on animal tissues, we find that it combines so intimately with their albuminous elements, that it cannot be dissolved out by the ordinary processes of lixivation. To illustrate this fact we will take about a drachm of strong oil of vitriol and pour it into the cavity of a stomach. We will then move the viscus about so as to diffuse the acid as freely as possible over its surface, and allow it to stand for a few minutes. At the end of this time the acid will have combined with the tissues of the organ, and have formed a compound which cannot be removed by mere washing; for, on pouring a little water into the stomach, and then testing the liquor so obtained, you will perceive that the greater portion of the acid has disappeared. This is a very important fact, and it is proper that you should bear it in mind in all cases of poisoning by sulphuric acid, lest you be deceived or disappointed if you fail to recognise the presence of the free acid in the contents of the stomach; for, as I shall bye-and-by inform you, there are cases on record in which large quantities of oil of vitriol were swallowed, and in which the effects of the acid were most clearly exhibited on the membrane of the lips, tongue, œsophagus, and intestines, notwithstanding that the search for the acid in the contents of the alimentary canal was most unsuccessful.

(e) *Action of Sulphuric Acid on Woollen Cloth.*—Those acids which have a density above 1830 act immediately on all kinds of woollen fabrics, and render them of a dirty brown colour. In twenty-four hours the colour becomes somewhat paler, and the cloth looks damp and feels rotten, for it gives way before the slightest force. The weaker acids do not act so promptly; in fact, an acid having the density of 1546 requires about fifteen minutes, in order to exhibit its carbonizing action on white woollen cloth; and when the density of the acid is as low as 1136, the cloth merely acquires a pinkish tinge after an interval of twelve hours, but in all cases the fabric looks damp, and becomes exceedingly rotten.

As in the preceding instances, we find, that, when a given amount of oil of vitriol is poured upon a woollen tissue, it combines with the albumen thereof,

and cannot then be entirely recovered by the ordinary process of washing. In fact, the whole of our inquiries into the action of sulphuric acid on albuminous matters are sufficient to show that the acid combines with them in a very intimate manner, and produces a compound which is very insoluble in water. I am not exactly prepared to tell you what is the nature of this compound, whether it be, as some suppose, a hypo-sulphate of albumen, or whether it be, as Mulder thinks, a sulphate of albumen; but this I know, that the white coagula which are produced by the addition of sulphuric acid to egg albumen will yield from 6 to 10 per cent. of sulphuric acid; the larger amount being furnished by the precipitate which is found when sulphuric acid is poured into a dilute solution of albumen. These results differ somewhat from the analyses which have been published by Professor Mülder, who, in speaking of the compounds of sulphuric acid with albumen, caseine, &c., says, that the capacity of saturation for white of egg and protein for acids is essentially the same, and that the sulphates of albumen, crystalline, and caseine sensibly correspond; that, for example, sulphate of albumen furnishes 8·3 per cent. of sulphuric acid; sulphate of crystalline, 8·63 per cent.; and sulphate of caseine, 8·45 per cent. of this acid; so that, according to the Dutch Professor, sulphate of albumen corresponds to the formula $C_{36} H_{25} N_4 O_{10} + (0{\cdot}4 \; SNH_2) + SO_3 + HO$. It is, however, sufficient for our purpose to remember, that the contact of sulphuric acid with the animal tissues gives rise to the formation of chemical compounds, from which the acid cannot be washed away; and that, while this circumstance often prevents us from recognising the presence of free sulphuric acid in the liquors removed from the stomach of an individual who has suffered from the effects of oil of vitriol, so it also serves to prevent the acid from escaping from the body, and thus enables the chemist to discover the cause of death, and, perhaps, to lay bare the act of the murderer.

We will now pass on to the consideration of another part of our subject, viz.:

THE TESTS FOR SULPHURIC ACID.

These I shall discuss in the order of their delicacy.

(a) *The Taste of the Acid.*—Strong oil of vitriol has a powerful acid, corrosive taste, and produces a burning sensation wherever it touches the mucous membrane of the lips or mouth; indeed, the acidity of this liquid is so great, that it imparts a sour taste to water when the latter fluid only contains the 1-1000th part of anhydrous acid; but you will also notice that solutions which contain a smaller proportion of free acid are not readily distinguishable by this test.

(b) *The Reddening Action of the Acid on Litmus Paper.*—This test is somewhat more delicate than the preceding; for, as I have already said, it acts distinctly when the acid is diluted with 6000 parts of water; the test fails, however, when the solutions are weaker than this.

(c) *Its Action on a Saturated Solution of Chloride of Calcium.*—Acids which have a density above 1002, or which contain more than 0.2 per cent. of sulphuric acid, give a copious white precipitate with this calcareous solution. The precipitate consists of minute, silky crystals of the hydrated sulphate of lime, the formula for which is $Ca\,O + SO_3 + 2HO$. This precipitate is insoluble in dilute nitric and muriatic acids. A turbidity due to sulphate of lime is evident even when the acid is diluted so as to contain only 0·014 per cent. of real acid; but the test ceases to be of value when the solutions are weaker than this. Again, in operating with a solution of the last-named strength, it is necessary that you should use about thirty drops of it; so that it is possible to recognise by means of this test the 1-238th of a grain of sulphuric acid.

(d) *Action of the Acid on a Saturated Solution of Sugar of Lead.*—The soluble salts of lead produce a white precipitate (sulphate of lead, $Pb\,O + SO_3$) with sulphuric acid; and, like the preceding, the precipitate is insoluble in dilute acids. This reaction is very manifest when the liquid does not contain more than 0·0128 per cent. of dry acid; and, by using about thirty drops of such a liquid, we may detect as small a quantity as the 1-260th of a grain of free sulphuric acid.

(e) *Action of the Acid on a Soluble Salt of Baryta.*—Chloride of barium produces a white precipitate (sulphate of baryta) with solutions which contain sulphuric acid, and the precipitate is perfectly insoluble in nitric and muriatic acids. This is by far the most delicate test for sulphuric acid; for a soluble barytic salt will occasion an opalescence in a liquid which does not contain more than 0·0016 per cent. of the real acid; that is, when the solution is diluted so as to contain only 1 part of acid in 62,500 of water. And with regard to the quantity of acid which is discoverable by this means, you may perceive that the precipitate is evident when we use about thirty drops of the last-named liquid. Consequently the test is capable of making manifest the 1-2083th of a grain of sulphuric acid.

Fallacies of these Tests.—The phosphates, carbonates, sulphates, iodates, and, as Mr. Taylor says, the seleniates, and fluosilicates give rise to precipitates which are very similar to those occasioned by sulphuric acid; but independent of the fact, that the precipitates obtained by the first-named compounds are all soluble in nitric or muriatic acids, a property which is sufficient at once to distinguish them from the sulphates, you will notice that all these compounds, excepting the first two, are rare substances, and are not likely to be met with in the contents of the human stomach, or, indeed, in any place but the laboratory of the scientific chemist; they can scarcely, therefore, as Dr. Christison remarks, be considered as sources of fallacy. There is, however, another, and a very positive character whereby the sulphates of lime, lead, and baryta may be readily distinguished. This character is especially applicable to the recognition of sulphate of baryta, and it is founded on the property which this salt has of being reduced at a white heat, by carbonaceous matter. In order to make it manifest, we proceed as follows:—Collect the precipitate which is obtained by means of a barytic salt; dry it, and mix it with about four times its bulk of powdered wood charcoal; fold up the mixture in a piece of platinum foil, and ignite it for a few minutes before the mouth blowpipe; when the foil is cold, unwrap it, and put its contents into a small test tube; then add a few drops of diluted muriatic acid, (1 to 1,) and apply heat; sulphuretted hydrogen will be evolved, which is known by its unpleasant odour, and by its darkening a strip of paper which has been moistened with a solution of sugar of lead. The rationale of this test is the following:—When sulphate of baryta is heated with carbonaceous matter it loses its oxygen, and becomes changed into sulphuret of barium. This compound is, in its turn, decomposed by the muriatic acid, and converted into chloride of barium with the evolution of sulphuretted hydrogen gas. I find that this test is a very delicate one, and that its re-actions are very manifest when we employ no more than the 1-10th of a grain of sulphate of baryta, a quantity which is yielded by the 1·29th of a grain of sulphuric acid.

Another, and a very great source of fallacy with which you will have to contend in the course of your operations, is the presence of a soluble sulphate in the liquid which you are analysing; for you are to bear in mind that sulphates are very commonly present in organic liquids, and that the tests which we have just gone over, are applicable, not only to the detection of free sulphuric acid, but also to the recognition of this acid in every one of its ordinary forms of combination. In fact, the tests give rise to the very same re-actions when we are operating on solutions which merely contain Epsom salts, Glauber salts, sulphate of zinc, alum, or, indeed, any other common kind of sulphate. It is, therefore, a matter of the gravest importance that we should guard against these sources of fallacy; and that we should know *how to distinguish the free acid from that which is in combination.* You will readily perceive that this is a most important problem; for to repeat my observations, while, in the first place, the quantity of acid detectable in the contents of the stomach, in a case of poisoning, is very small, so, in the second place, the re-actions by which the chemist is ordinarily guided in such cases, will be sure to be manifested whenever a sulphate, and perhaps a common one happens to be present in the alimentary canal. I cannot say, however, that this important problem has yet been satisfactorily solved, notwithstanding that many suggestions have been offered for the purpose of accomplishing so desirable an object. Among these suggestions are the following:—

1. It has been proposed that we should evaporate the suspected solution to dryness, and observe whether there be any saline residue or not; for it is said, that in the case of free sulphuric acid the solution will be entirely volatalised by such a process; but that if a sulphate be present it will be made evident by the fixed residuum. This process, however, although it appears to be so simple and conclusive, is only applicable to the detection of the free acid in pure and unmixed solutions; for, if we proceed to apply it in cases where the liquids contain organic, or even other saline matters, we shall find that it is open to many objections, and may often lead to very erroneous conclusions. I will give you one case by way of illustration. Most organic solutions contain alkaline chlorides, and if we operate upon such a solution, having previously added to it a few drops of sulphuric acid, you will notice that there is left a fixed residuum of alkaline sulphates, and that the result of the process indicates the presence, not of free, but of combined sulphuric acid.

2. It has been proposed by some chemists that we should shake up the doubtful liquid with a small quantity of finely powdered carbonate of baryta, in the hope that the soluble sulphates will not act on this barytic compound, and that the free acid will. You may perceive, however, from the results of the experiments which are now before you, that alum, sal-enixum, Glauber's salt, Epsom salt, sulphate of zinc, and, indeed, every one of the common sulphates, will easily re-act on carbonate of baryta, and give rise to the formation of the sulphate of this base; and if it should happen that a little free acid of any kind be present in the liquid, the re-actions will be much more prompt and energetic. Let me demonstrate the truth of all this to you. Into each of these glasses I have placed a small portion of carbonate of baryta; and I have poured upon the first portion a weak solution of alum, upon the second a solution of sal-enixum, upon the third a solution of Glauber's salt, upon the fourth a solution of Epsom salt, and upon the fifth a solution of sulphate of zinc. These solutions have been standing upon the carbonate for about one hour, and now, if you carefully wash the precipitate which is at the bottom of each of the glasses, and then test it with dilute nitric acid, you will perceive that every one of the deposits is insoluble in this menstruum; showing that in each of these cases the carbonate of baryta has been converted into sulphate, and that the process is, therefore, not at all applicable to the recognition of free sulphuric acid.

3. If we employ, as Dr. Christison formerly suggested, carbonate of lead instead of carbonate of baryta, we shall find that the re-actions are very similar to those which we have just witnessed, excepting, perhaps, that the soluble neutral sulphates are not so easily decomposed by carbonate of lead as they are by carbonate of baryta.

4. Some chemists have proposed to adopt a more complicated process, in order to determine the presence of free sulphuric acid; for they recommend that we should take two equal portions of the suspected liquid, and treat them in the following manner.

One portion is to be acidulated with nitric acid, and precipitated with a salt of baryta.

The other portion is to be evaporated to dryness, its residuum re-dissolved in water, acidulated with nitric acid, and then precipitated with a salt of baryta.

By operating in this manner, and comparing the results of the two experiments, it is presumed that we may determine the presence of free sulphuric acid with much certainty; for, in the first case, the weight of the sulphate of baryta indicates the total

amount of acid present in the liquid, and, in the second case, the free acid having been volatilised during the process of drying, the weight of the barytic compound only indicates the amount of combined acid; so that, by subtracting the weight of the one from that of the other, we obtain a number from which we may calculate the amount of free acid originally present in the liquid. A little reflection, however, will show that the following objections may be raised to this process:—1st. A supersulphate, or even a small quantity of alum may, by drying the residue too far, give rise to results which indicate the presence of free acid. 2nd. If the evaporation of the liquid has been conducted with haste, that is, if it has been permitted to go on with active ebullition, some of the sulphates will be lost during the process, and the results will lead to a false inference. 3rd. If it should happen that an alkaline chloride is dissolved in the liquid, the free acid, if any be present, will combine with the alkaline base, and so, by becoming fixed, it will lead to an erroneous conclusion.

5. Simon has proposed to evaporate the liquid nearly to dryness, and to digest the residue in absolute alcohol, in the expectation that this menstruum will only take up the free acid, and will leave all the sulphates in an insoluble form. This expectation is to a certain extent founded on fact; but you may remark that alcohol instantly removes sulphuric acid from the supersulphates, and that it will even dissolve a small quantity of the neutral salts of this acid, provided it be digested on them for a few hours. Moreover, the evaporation of the liquid is open to the objections just mentioned.

6. Orfila directs that the concentrated liquid should be agitated with pure sulphuric ether, and that the ether should be decanted, and allowed to evaporate spontaneously; for (says this Author) ether will dissolve free sulphuric acid, and will leave the neutral and supersulphates untouched; but, as Dr. Christison very justly remarks, this proposal is unaccountable, for Simon stated in his paper, three years before, that ether does not remove sulphuric acid from watery fluids containing it; and Dr. Douglas Thompson and Dr. Christison have found, on inquiring into the matter, that they could not, by means of ether, separate a particle of sulphuric acid from an ounce of rice soup and mucilage, to which ten drops of the acid had been added.

Amidst the difficulties, therefore, which beset this question, you will very naturally inquire how you are to proceed, in order to determine the presence of free sulphuric acid in any mixture. Now, although I cannot, as I said before, give you a very satisfactory answer to this question, yet I can lay before you a few facts, whereupon your judgments in this matter may be safely based.

Firstly,—If the mixture be a pure and colourless one, you are to evaporate it until it has a density of about 1·140; and then, on boiling it for a few minutes with a grain or two of sugar, you will notice that, if it contain free sulphuric acid, it will acquire an amber tint, and, perhaps, a deep brown one; while if it merely contain a sulphate, or supersulphate, it will not manifest this re-action, but will remain colourless. Again, I find that, by evaporating the liquid until it has a density of about 1·600, and then heating it with a few grains of metallic copper, it will, if it contain the acid in a free state, evolve the vapour of sulphurous acid; but it will not do so if it merely contain a sulphate or supersulphate.

Secondly,—If the mixture contain organic matter, or an alkaline chloride, the process is not so simple, and the conclusions are not so definite; for we can only obtain results which are near to the truth. I believe, however, that in these cases the process of Simon will be found to be the best. I, therefore, advise you to adopt it; but I shall postpone the description of this process until we consider the means whereby sulphuric acid is to be detected in organic mixtures.

Quantitative determination of Sulphuric Acid.—You have just become acquainted with the difficulties which stand in the way of our detecting free sulphuric acid in any compound mixture; but if we are manipulating with a liquid which only contains sulphuric acid and sulphates, we can easily determine the proportion of free acid present in it for, by using a solution which contains a known amount of pure anhydrous carbonate of soda, that is, of carbonate of soda which has been recently ignited, and adding this solution to the acid liquor until it just ceases to affect litmus paper, we can readily calculate the saturating power of the liquid, and hence the proportion of free sulphuric contained in it; for it is known that every 53 parts of the ignited carbonate of soda represents 40 parts of free anhydrous sulphuric acid. Supposing, therefore, that we have employed 100 grains of a liquid containing free oil of vitriol, and that it required 364 parts by measure of a solution containing 53 grains of dry carbonate of soda in every 160 parts of it, it is evident that such a liquid contains 91 per cent. of free acid; for as 160 (containing 53 grains of carbonate of soda) is to 40 grains of sulphuric acid, so is 364 parts to 91. Or, to make the calculation a little more simple, as the solution of carbonate of soda has been made of such a strength that every 4 parts of it represent 1 grain of sulphuric acid, we have only to divide the quantity of the solution used by 4, and the product is the amount of free sulphuric acid contained in the liquid.

Another and a more accurate mode of determining the total amount of acid, free and combined, in any liquid, is the following. Acidulate the liquid with nitric acid, and then add an excess of some soluble salt of baryta; collect the precipitate and dry it. Every 117 grains of the sulphate of baryta so formed is equal to 40 grains of sulphuric acid—quantities which are very nearly in the proportion of 3 to 1.

LECTURES ON MATERIA MEDICA,

DELIVERED AT THE ROYAL COLLEGE OF PHYSICIANS.

By GOLDING BIRD, M.D., F.R.S.,
Materia Medica Professor to the College.

LECTURE VI.

MATERIA MEDICA.

Mr. President and Gentlemen,—I will here relate an experiment which I performed with the assistance of an indefatigable votary of medical science. I assumed, that the assimilative force was enjoyed by the vegetable as well as the animal,—that it behoved Nature thus to endow the lowest as well as the highest; and therefore it occurred to me, that if there was evidence of the first exerting an influence on lower organisms, it would be satisfactory so far as it goes. I will not venture to say, that I have seen its influence on very low organisms. A piece of the nitella, that beautiful plant, used for the purpose of watching the circulation of the cells, was placed in a glass vessel, and while watching it, I observed a curious circulation of the sac globules in one part of the cell; we found that this was under the influence of certain agents which were incapable of any chemical action. Thus, morphia sent the circulation to sleep, and in few minutes it stopped; hydrocyanic acid stopped it in a moment; strychnia quickened it, and then stopped it. Now, whatever influence they exerted, it was not any chemical action on the constituents of the cell. It then became a question, whether the intenseness of the bitter of morphia had anything to do with it. I would not attach much worth to this fact; but, whilst it is evident that some of these narcotics exert an influence in narcotising the life of a plant; yet some did not do this, and kept the plant in perfect vigour. It is simply a curious observation.

The third class which I have enumerated is one which has been largely employed during almost all ages, and contains a small number characterised by the combination of a peculiar bitter substance, chrystalline, neutral, free from nitrogen, but combined with a quantity of starchy matter of a low form. To this class we refer the leaves of the coltsfoot, Iceland moss, and the cock-moss of our heaths, —given to children as nutrient tonics in cachexia. Here also is included the well-known sarsaparilla and hemidesmus, which was once used very largely without discovering that it was not sarsaparilla. Here, then, I recommend a class which, while it aids the function of assimilation, gives also a nutrient principle; and hence the undeniable value of the three latter in chronic cachexia.

But there is another class which has an influence of a remarkable character, and acts in aiding the resisting force, seen in a marked manner to stimulate this function, and enabling it to throw off poisons developed during the decomposition of vegetable matter, as in marsh malaria. The conditions under which this is developed is nearly the same. It was supposed, that this gave a development of sulphuretted hydrogen; but it is not so. Professor Daniel, in adverting to this, had some water collected off the coast of Africa and brought to Europe; it contained sulphuretted hydrogen; and a series of observations were published in America. He took coins and hung them up under the influence of the water, and they were all corroded in a night. The explanation was, that the sea water had been corked up with animal and vegetable matter; thus decomposition went on; oxygen was removed; sulphurets withdrawn, and sulphate evolved. Any sea-water would have done the same. Whatever be the cause of marsh malaria, a certain change takes place in the blood; the peculiar whity-brown complexion is not to be mistaken, and we know the certain effects under which patients sink. This poison exerts a character termed periodicity. Now, there are a class of tonics which have the effect of opposing this: but, we find them of such different characters, that we ask with some surprise how they have come to be connected. The influence of barks is well-known. They act by giving a large amount of energy to the resisting force, and thus get rid of a large proportion of the poison which may exist in the blood. They have one character in common—they have all an influence in giving vigour to the depressed nervous functions. We have evidence that these peculiar remedies control the chemistry of the body. The influence of arsenic in the treatment of disease resulting from disordered capillary circulation is well known; it owes its influence to its power of stimulating the force of resistance, and in enabling the body to get rid of poison. Berberine is also recommended, having had a large trial in England, and never failed in stopping ague, when properly prepared; if a patient comes with an unprepared system, it is better to give mercurials first, and then berberine.

The fifth class are remarkable on account of its stimulating the nervous function properly so called. They have many properties in common. The influence of zinc no one will deny. In a case of chorea, where the patient has lost all control over the nerves of voluntary motion, or a school-child frightened—let that child endeavour to control its movements; it will be found useless,—there is a loss of control;—and here zinc exerts an astonishing influence, and you may increase the dose to almost any quantity. Silver and copper are analogous so far. Strychnia is supposed to stimulate the influence over the spinal chord; that it exalts the nervous power is undeniable; but is also capable in small doses of exerting a most decidedly strengthening influence in chorea. I tried it in one case which had resisted zinc, and the patient got perfectly well. But there is a curious illustration of the power of strychnia in controlling debility, in cases of irritable stomach,—that condition which we often see in hysteria, and other circumstances. When a calculus is passing, this irritation is felt. Now, in such cases strychnia acts almost as a charm, and if asked to name a remedy of which there was more certainty than any other, I should at once recommend strychnia, in 1-12 or grain doses. Hitherto I have supposed that these stimulate no particular function; but there is one class which have a decidedly stimulant influence on the active force. These are the Stimulants—*quoad*, the stomach; *quoad*, the skin; *quoad*, the intestines.

Quoad, the stomach. Here we have a bitter principle, with the addition of an aromatic essential oil, exciting the active force and stimulating the

force of vital resistance. Hence the use of these in aiding the force of assimilation; and these stimulating the secretion of gastric juice, exert an influence not shared by simple tonics.

Quoad the skin; which, while they exert an influence as tonics, partly exert it on the skin. These were favourite remedies among the old physicians and I believe now, that if any of my colleagues were asked whether they could treat a case of fever without serpentaria, they would express some doubt. This led me particularly to watch the action of these remedies; they do to a certain extent stimulate, and one proof of this is, that bed-sores begin to show healthy aspect at the same time that the function of the skin becomes stimulated. The guiacum has a high character for opposing that depressing condition which arises from the bite of the rattlesnake but it differs from the others, in the presence of essential oil.

Quoad the intestines. These two are commonly regarded as astringents. This is a very wrong idea. They give tone to the intestines. The first is well known to do this; both excite nausea.

I am anxious to shadow forth here, that if we are to be successful in a class of remedies as tonics, there is no class so important to be well understood. To succeed, it must be by endeavouring to stimulate the forces which I believe to exist in the system, by the simple, the calmative, the nutrient, the anti-periodic, the nervin, or the stimulant.* But there is a class totally distinct from these, but equally tonics,—those which give a healthy constitution to the blood. The influence of food and oxygen is plain enough, because when oxygen is cut off, we at once observe the fearful condition of the general health; and when it is re-supplied how the powers of the body are excited. Now, in all the other classes of remedies, there is not one for which we have not a substitute. But if I am not possessed of iron, what have I? Nothing; and for this reason, that iron is a substance containing a characteristic element of the blood. Now there are certain conditions of the health in which iron is absent, as in anæmia. In certain districts where malaria abounds there is a remarkable tendency to anæmia. A Physician shall attend the Islington Dispensary, and in one or two days go to the Hospital in the Borough, and it is remarkable how anæmia abounds in the one and not in the other. To-day, 130 children were brought under twelve years of age, and a number of them were anæmic cases. This remedy is the only one for which we have no substitute; for with others you do not give the pabulum to stimulate the assimilative forces of the body, and hence the value of iron combined with a vegetable acid.

In these remarks I have alluded to a series of remedies which oppose the condition of decomposition. But we have antagonistics to these, namely, alteratives, which stimulate the chemical force, and thus enabling us to increase the destruction of tissue, the oxydation of the matter of the blood, and modifying the vital force. How, then, are we to stimulate the chemical force. Look at a patient taking alkalis; give a fat man liq. potass. in 2 drachm doses two or three times a-day; what is the result? A diminution of fat, and the emaciation of the patient. This only acts by aiding the chemical force of the body. In like manner this explains the iodide of potassium in removing certain unhealthy deposits in the glandular textures. One notion is, that it starves them; others, that it prevents the supply of growth. But I suspect, that it exerts an influence in stimulating the chemical force of the body. It is capable of exercising an influence on the fresh fibrine of the blood when out of the body, yet I have no doubt that it aids the chemical functions of the body, and as these matters, which are not developed by the vital power, will yield, so under the influence of a salt this change takes place. In this manner acetate of potass acts; also mercury, in removing unhealthy deposits in the body. We know the influence of mercury in causing the coagulum of the blood to become lacerable, and hence it is active in influencing the chemical force.

I must now break off. If I have been able here to adduce anything of interest, it would not be doing justice to take leave of you without acknowledging how much I have been indebted to the Pharmacologia of our illustrious President. The rudiment of a great deal that I have advanced will be found there, and will lose their novelty in proportion as that work is studied; there is not one line too many in that book. In conclusion, I cannot but express the fear that I have occupied your time in these six Lectures somewhat unprofitably, and would express my deep sense of the honour you have done me in the patient attention which you have given to what has been advanced.

ORIGINAL CONTRIBUTIONS.

IMPERFORATE ANUS.

SUCCESSFUL OPERATION ON THE THIRD DAY AFTER BIRTH, WITH OBSERVATIONS UPON THE CASE.

By JOHN HOOPER, M.D., L.R.C.S. Edin.; M.R.C.S. London.

On Saturday, June 16th, 1849, the wife of a clergyman, residing about five miles from this place, was delivered of a fine little boy, about 10 p.m., four weeks before the full period of gestation.

17th.—I saw both mother and child; they appeared to be doing well, the latter had not been applied to the breast; a small quantity of thin gruel had been given; no evacuation; ordered the immediate application to the mother, and, if the first milk did not move the bowels, a teaspoonful of castor oil was to be given.

18th, afternoon.—I was requested to see the child; the bowels had not acted; castor-oil had been given, and the infant had sucked; on examination, I found there was a perfect occlusion of the anus, no intumescence, nor the slightest corrugation of the skin, where the aperture should be; it was a perfectly plane and even surface; on applying the finger, it conveyed the sensation of solidity. I felt satisfied the rectum terminated at some distance within the pelvis. As it was necessary to be guarded in my prognosis, I stated what I feared to the parents; and, with their consent, made a crucial incision through the integuments to the depth of half an inch, finding the parts perfectly solid. I then, with less hesitation, pronounced a decided opinion that the child could not live without an operation; that an issue could only be obtained either by the left side of the abdomen or anus. On explaining the danger and inconveniences attached to these operations respectively, the father considered for a short time, and then decided that it would be better to attempt an opening in the direction of the usual course of the natural passage, as I thought more favourably of this attempt. Being aware of its doubtful result, he baptized the child, and I proposed coming the next day. As the abdomen was not tympanitic, distended, or painful, the postponement was desirable; for it would cause the depending part of the bowels to be distended, and pushed lower down.

19th, three o'clock, p.m.—The child has suffered much from pain and straining; when the straining occurs the nurse has frequently heard a noise like the passage of wind, and observed meconium on the napkin, which passed through the urethra. Urine comes first perfectly clear, then the meconium. The bowels are perfectly distended, the course of the colon can be distinctly seen. I determined to adopt M. Roux de Brignolles's mode of operating, which appeared to me most likely to be attended with success.

The infant was placed on the lap of the nurse, opposite the window, and held in the same manner as for the operation of lithotomy, with the shoulders low, and pelvis elevated by a cushion. An incision was made through the skin, in the exact line of the raphé, one inch in length; the incision was continued to the depth of an inch and three-quarters, through the integuments not in the axis of the pelvis, but along the concavity of the os coccygis; no vestige of the sphincter muscle or levatores ani could be seen; the substance cut through was evidently fat, with two or three nuclei-like lymphatic glands. I now introduced the index-finger of my right hand, but could not feel the distended rectum. The instrument used was a small scalpel; the edge was directed backwards.

I continued the incision until the diminished resistance indicated that I had reached the cellular tissue; the scalpel was laid aside. On introducing my finger to the bottom of the wound, which was now as deep as the finger could reach, the rectum could be indistinctly felt. I now introduced a director, up the groove of which I passed a straight bistoury; the point was turned obliquely upwards and backwards, to avoid wounding the bladder; the director was removed and pushed a little higher, when it entered the cavity of the rectum, which there was no doubt about, as the meconium began to flow. The handle was now raised, and the blade withdrawn; the intention of raising the handle is to enlarge the internal incision. The meconium began to flow freely. Injections of warm water water were now thrown up with one of Sir Charles Clarke's syringe's to wash out the intestines. During the operation the child's penis became erect, and ejected *first* a clear stream of urine, then meconium. On injecting the rectum, some of the water, discoloured with meconium, flowed through the urethra. I now introduced some fine lint, smeared with *ceratum simplex*. A quantity of air passed through the new passage; the abdomen became less inflated. During the operation the exit of wind by the urethra was audible to all in the room, and made a peculiar noise. My son, who is one of my pupils, assisted me during this operation of exploration.

Nine o'clock, p.m.—I was summoned to my patient in consequence of hæmorrhage, which had continued for two hours. The charpie had been forced out by meconium and blood; it had been reinserted before my arrival; the discharge had considerably lessened. I applied rags, wet with cold water, over the wound. About eleven o'clock there was a return of bleeding. The charpie was withdrawn, and the legs kept close together. I remained in the house all night.

20th, 5 a.m.—The nurse called me to say that the child was uneasy. He had slept soundly; been applied to the breast three times; sucked well; no hæmorrhage; napkin besmeared with meconium; portion continued to flow from the urethra; applied a pledget of lint, which had been immersed in cold water, to the wound; advised its repetition; child to be applied to the mother 7 times in 24 hours.

21st, 12 o'clock noon.—My little patient has had a tranquil night; very little meconium has passed by anus, but more by urethra; abdomen distended; I tried to introduce a bougie about two-eighths of an inch in diameter, and it would not pass into the rectum; I introduced my silver director, and tried to dilate the opening into the gut; some rather consistent fæces passed, but it was evident that the internal opening was not large enough; I now passed the straight bistoury half an inch higher than before; on withdrawing the instrument, a formed dark evacuation, about two feet in length, passed easily; the rectum was well injected with warm gruel; bowels were well emptied; the latter part of the dejection was perfectly yellow.

23rd.—Good night; no offensive matter from urethra; bowels have acted well three times daily since last report; introduced a bougie nearly an inch and a half in circumference, anointed with cerate (with perfect freedom) four inches and half, used an injection of warm gruel.

26th.—The bowels have acted well daily; the larger bougie has been introduced every morning by myself, and afternoon by nurse. Discoloured fluid passes occasionally by urethra.

30th.—Patient going on well; bowels regular; found trouble in introducing the point of bougie. Nurse confessed she had neglected to do so a second time yesterday. This is a proof how quickly the external wound contracts. Urine alone has flowed through the urethra the last three days.

July 1st.—Bowels inactive; teaspoonful of castor-oil was given this morning, which operated well. The parts around the anus, before full and promi-

nent, have become hollow and puckered, presenting more the usual appearance of the orifice.

6th.—The bougie passes easily; my little patient is labouring under aphtha infantium; the bowels are more than usually acted upon; the dejections evidently irritate the skin around the anus. Ordered

℞ Magnesiæ calcinatæ gr. iij. ter. die.

℞ Sodæ biboratis ʒj.; mellis ʒss; aq. rosæ ʒx.; fiat lotio, partibus affectis calimo scriptorio sæpe applicanda.

9th.—He has quite recovered from aphtha; going on well.

15th.—The bougie has been used twice a day up to this period; case going on exceedingly well. I said it would not be necessary for me to call for three days, and until my next visit the large bougie might be discontinued.

18th.—Bowels have been regular; considerable quantity of fungus projecting from the orifice, giving it the appearance of two cuts. I had the greatest difficulty to pass the large bougie, and almost feared it would be necessary to use the bistoury; but by a little address I succeeded, and allowed it to remain in a quarter of an hour; applied argenti nitras to the fungus; requested that the large bougie might be used twice a day in future, and dry lint applied to the anus.

23rd.—He is going on well; bowels regular; bougie has been used twice a day since last report; fungus quite destroyed. This is the 34th day.

30th.—I had not seen my patient since the 23rd; his bowels act naturally two or three times daily, and he appears thriving. The nurse has used the large bougie twice a day, introducing it only one inch, as the granulations are only troublesome at the orifice; there does not appear to be any probability of contraction taking place now. I introduced the bougie about four inches, which was followed by an evacuation of fæces and urine. If any fungus appears, the nurse is desired to apply nitras argenti and dry lint. I have taken leave of my patient, considering him convalescent. In the course of my treatment tents made of soft sponge were tried two or three times, which caused pain, and were soon forced out. I am satisfied that the perusal of treatment in this case will cause bougies to supersede the use of tents. Fortunately for mankind these cases seldom occur; when they have, with very few exceptions, Nature has had the control.

Mr. Bell operated on two cases, and said that he never met with any disease which gave him so much trouble and embarrassment. It is only by the most assiduous attention that the opening can be kept dilated. The result of my experience is, that the use of a bougie large enough to fill the aperture, and continuing to do so twice a day, will prevent the too rapid growth of granulations, and the tendency to contract.

An imperforate anus has generally some preternatural outlet, either by urethra, vagina, navel, or groin. There is an extraordinary instance of such accommodation mentioned in "Samm Med. Wahrnehen," b. viii. p. 29. A girl who from birth had an imperforate *anus* and *meatus urinarius*, and to the age of fourteen had regularly discharged her urine by the breasts, and her fæces by a natural vomiting.

Two cases of imperforate anus were communicated by Dr. Keiller to the Edinburgh Obstetric Society; (a) the first was operated upon with temporary relief; in six weeks the operation was repeated thrice, when fæculent matter ceased to pass by artificial anus; it became obliterated, and the matter passed by urethra. This ended in a complete stoppage of the fæces and urine. Death supervened. The *post mortem* evinced, that at each operation the cut had been made into the urinary bladder, into which a small and imperfect gut had been found to terminate. There was no regular rectum or sigmoid flexure. In the second case the child lived twelve weeks, and evacuated the fæces by the mouth. No operation was attempted. The colon terminated in a *cul de sac*, which floated loosely among the intestines in the umbilical region. These cases evince that there must generally be a doubt whether you will find the rectum; therefore we cannot always expect so fortunate a result as in my case.

(a) *Medical Times*. Vol. XVI. p. 532.

These cases of monstrosities or malformations are singular and various. We are perfectly ignorant of the manner in which they are generated or produced. It is exceedingly probable that they are governed by laws, regular both as to cause and effect, as in common or natural productions.

Are they primordial or aboriginal? The general opinion is that they are. If this be true, they cannot be caused subsequently by the power of the mother's imagination transferring the imperfection of some external object, or the mark of something for which she longed, and with which she was not indulged to the child of which she was pregnant. I have no doubt that many cases of malformation are primordial; but facts prove that they are frequently the consequences of strong impressions up the mind of the mother during gestation; and it is perhaps well that this opinion should prevail, in order to protect pregnant women from all hazardous and disagreeable occupations, and to secure for them more tenderness and indulgence than could be allowed in the common routine of life. The mother of my little patient, who is a very intelligent lady, suffered from *Ischuria vesicalis* at an early period of gestation. It caused her much distress, and no little mental anxiety. She endeavoured to glean information upon the subject from an Encyclopædia, and among the causes of this disease in infants, this malformation was mentioned, and, as may be supposed in a nervous lady, was likely to excite fear lest her offspring should labour under this calamity. She reasoned with herself, but could not shake off the impression.

Some years since, a lady in this neighbourhood, after giving birth to a fine child, asked me to look at the upper lip. On doing so, it presented the appearance of a well-united hare-lip; the marks of the pins were evident. About the second month of pregnancy, she saw a child who had been successfull operated upon for hare-lip.

A lady, a relative of mine, while pregnant with a boy, pinched her right thumb between the door and door-post; the accident caused her much pain. She was so firmly convinced her child's right thumb would be marked, that, at the birth, she desired the nurse to look at it, and this member appeared as if its lateral growth had been impeded by a vice, and had more the character of a finger than a thumb. He is now a man, and the deformity continues.

Dr. Wood, my predecessor, attended a lady in her confinement who had frequently, anterior to the birth of her child, affirmed, "that it would be marked with blood on the hand." About the third month of gestation, she was much frightened by a servant entering the kitchen with her hands reeking with the blood of a goose just killed. The child she bore was a girl, who is now the mother of a large family. One hand has livid spots, and, when warm, has exactly the appearance of blood having been sprinkled over it. None of her children have this mark. About eight years since, a carpenter's wife, of the name of Brand, was walking from Throcking to Chipping (two villages in this neighbourhood) during the early period of gestation; as she was passing a plantation of firs, a wild duck flew out; its sudden appearance, together with the peculiar noise those birds make alarmed her exceedingly; she saw the birds distinctly, and stood in an attitude of despair with her hands clasped for some minutes before she could proceed. Until her accouchment she continued to labour under the effects of this fright; indeed, she was an invalid during the whole period, and never without the impression that her child would have some deformity. Two surgeons were with her when she gave birth to a boy; she solicited them immediately to examine it; the fingers and toes were united by skin, and the nails had more the appearance of claws. When I first saw him, he was advanced in life, and was clearly web-footed and web-fingered; but, to give more freedom to the hand, the thumb and index finger had been partially separated by a surgeon, when he was a boy. He had one son with the same malformation whom I also saw; there can be no doubt of the aboriginality of the latter.

Did I not fear to trespass too much on your limits, I would willingly have introduced a few more cases tending to corroborate the opinion entertained by myself and others, that, although frequently primordial, monstrosity may commence at a period long after conception.

Buntingford, Herts.

PROGRESS OF MEDICAL SCIENCE.

FRANCE.

[From our own Correspondent.]

CHOLERA.

Whatever may be the influences which have given rise to the recrudescence of Asiatic cholera in London, they have extended to Paris likewise, where the disease has again manifested a tendency to the increase. This has been strongly marked during the last two weeks, and the mortality has now risen to about forty a day for the city and hospitals united. Several English visiters, who had left London in a hurried manner to avoid the complaint, were, I have been informed, attacked almost immediately after their arrival here. As to the cause of the relapse, it is impossible to offer any conjecture. All we can affirm is, that "heat" has not been the exciting or predisposing cause, for the weather is anything but warm. It is most uncertain, and at the same time unwholesome. I observe, that the disease has also returned, with more or less violence, nearly along the whole line of coast which extends from Calais to Cherbourg.

At the Academy of Medicine, the opinions seem to incline daily more and more in favour of contagion; yet when we come to examine more closely the facts adduced by the various speakers, it must be confessed that they are but feebly conclusive. At the last meeting M. Rouget de Lisle astonished the Assembly, by an account of wholesale cures performed in a manufactory, which is under his direction. All the workmen attacked were speedily cured by wrapping them in sheets dipped in boiling water, and then placing them over the boilers of the steam-engines.

This is what the French call "heroic" treatment. I question whether the "wet sheets" of Dr. E. Johnson would be found to be as efficacious.

M. Junod, on the other hand, affirms, that his monster cupping-glass is all but infallible. It is certainly a most powerful instrument for effecting derivation of the blood; and as such may be useful in preventing the internal congestions so common in cholera.

In hospital practice we have nothing of much interest this week to notice. At the large Military Hospital at Versailles, M. Baudin has been working an extensive series of experiments, for the purpose of showing that ague can be cured by arsenic, as rapidly as by quinine. The value of arsenic in the treatment of intermittents has long been known to English medical men. Here, its interest chiefly depends on the fact, that it costs 16,000*l*. *per annum* for the quinine required to treat the soldiers attacked by ague in Africa; and hence, the substitution of arsenic would effect a great economy.

At the Hotel Dieu, M. Jobert, the new luminary of that renowned *locale*, is discoursing on his favourite subject of diseases of the rectum. In a recent lecture, he made some interesting observations on fissure of the anus, and proved—"of course"—that his own method, viz., excision of the granular membrane which lines the fissure, was infinitely superior to the incisions of Boyer, the lacerations of Recamier, the subcutaneous operation of Blandin, or the cauterisations and injections of other surgeons. M. Jobert asserts that he has cured fifty patients, without a single failure, by his mode of treatment.

TREATMENT OF ANEURISM BY ELECTRO-PUNCTURE.

At the last meeting of the Academy of Medicine, M. Abeille, assistant-physician to the Val-de-Grace, read a memoir on the above subject, of which the following is a summary:—

A female, 67 years of age, was affected with a

tumour of the size of a hen's egg, which projected between the scaleni muscles and presented all the characters of aneurism. It was, in fact, a pulsating tumour, the pulsations being isochronous with those of the heart; pressure on the artery above the tumour reduced it partially in size; pressure over the tumour gave rise to a sensation of *frемissement* under the hand, and the ear detected a very sensible *bruit de souffle*. From these symptoms, and particularly from the fact, that pressure above the tumour arrested the pulsations of the axillary and radial arteries, it was concluded that the subclavian presented the anomaly of a common origin with the carotid, and ascended over the clavicle to penetrate between the scaleni muscles. All the medical men who examined the tumour were of opinion that it was arterial, and the operation of electro-puncture was accordingly performed on the 10th February, 1847. The pile employed was composed of twenty pair of zinc and copper plates; the needles were steel, four in number, 2 to 2½ inches long, and covered with an isolating mastic to within one line of the point and two of the head.

The patient having been etherized, the needles were passed into the aneurismal sac, and the battery set to work. Strong sparks were elicited, and the operation continued for 37 minutes. On awaking, the patient complained of atrocious pain, attended by convulsive movements in the muscles of the arm and wrist.

Within five minutes after the commencement of the operation the tumour began to solidify; the pulsations were less distinct, and the pulse nearly disappeared. On extracting the needles, pressure, equivalent to a weight of two pounds, was applied to the surface of the tumour. It was then quite firm and without pulsation or bellows sound. Twenty-four hours afterwards the pulse was totally absent in the radial artery; the arm was numbed and cold as symptoms of cerebral congestion manifested themselves, it became necessary to practice two bleedings. After the 4th day the tumour began to diminish in size; on the 10th day it was much smaller, and on the 18th diminished by one half. It now remained stationary for a few days, then began to diminish again, and gradually disappeared Thus, on the 37th day, the skin appeared perfectly flat; on making pressure, an oval, flattened, and firm body was felt in the place occupied by the sac; and even three months afterwards some traces of the induration could be perceived. At this period the artery had acquired a slight degree of development just above the tumour; and three branches, not before evident, and supposed to be the vertebral, inferior thyroid, and posterior scapular arteries, were seen to radiate from this point.

It is now *two years and a-half* since the operation was performed, and the cure appears to be complete. The artery has not acquired any increased degree of calibre, and it requires excessive pressure with the finger to discover any trace of the old sac.

This, it must be confessed, is a brilliant success, and the fact, now indisputably proved, that electricity coagulates the blood in the living artery, may lead to further applications; but we must not conclude, from a few successful cases, that the new agent is to throw into the shade the discovery of Hunter. Even from the confession of M. Abeille, the pain occasioned by electro-puncture, in cases of this kind, is of so violent and distressing a nature, that the usual operation of ligature is preferable in all cases where it can be applied, as in aneurism of the femoral artery, &c. Besides, the accidents which may attend electro-puncture are fully equal to, if not greater than those of ligature,—hæmorrhage, cauterization of the sac or skin, inflammation and suppuration of the sac, &c.

I should not omit to mention, in reference to the above, that M. Abeille has performed ten experiments on dogs and sheep for the purpose of ascertaining whether the blood can be coagulated in a healthy vessel by means of electricity. In all the experiments the artery submitted to the action of electricity became plugged by a firm coagulum in a few minutes.

TREATMENT OF PHTHISIS.

M. Lecouppey flatters himself that he has succeeded in discovering a cure for this *opprobrium medicorum*. The following extract from a note which he read at the last meeting of the Institute shows that his method is at least simple, if not certain. "Everybody knows that the first period of phthisis is almost inevitably followed by the second; and the latter by death, if we abandon the disease to itself, or, what is nearly tantamount, treat it in the usual manner. Yet we possess a preparation which is capable of arresting the progress of tuberculization and even dissipating this condition completely. The preparation to which I allude is the common mercurial ointment. I administer it internally, and in the form of a pill, in the dose of 40 to 50 centigrammes a day, half in the morning, the other half at night.

Under the influence of this treatment, when employed in the first period of consumption, the symptoms soon decline, and some of them disappear in an order which is constant. Thus, when hæmoptysis exists, it is the first symptom to disappear; next, the evening sweats; after them the cough declines; finally, the lesions indicated by stethoscopic signs gradually yield, and a cure is often obtained in a few months. Such, at least, is the result of extensive experiments which I have made, and I have no hesitation in affirming, that the same results will be obtained by all those who may choose to repeat my experiments."

The above, you see, puts naphtha and the other "infallibles" completely out of joint. Before, however, we take the assertions of the Author for Gospel, it may be well to await the report which has been entrusted to Majendie, Andral, and Rayer.

The remedy of M. Lecouppey is an old one. For something new I must refer you to M. Bonnafont, who has conceived the ingenious idea of "gaseous injections." At first M. Bonnafont intended to apply these injections to diseases of the ear (the idea may be useful to some of our auricular quacks), but, unfortunately, patients were wanting. He, therefore, deferred his project until a soldier came under his hands with hydrocele. Immediately the apparatus was prepared—100 grammes of water and of ammonia, and a double pump to force in the gas. As soon as the fluid was evacuated from the scrotum, an assistant set vigorously to work, and pumped in the ammoniacal exhalations, until the scrotum had acquired the same volume as before the operation. The aerial injection was allowed to remain thirty-nine to forty seconds in the bag. The gas was then pressed out, and, as the patient experienced no pain whatever, the operation was repeated.

During the first three days the scrotum was completely free from pain or redness; for the next three some redness, with slight tumefaction and heat, manifested itself. On touching the scrotum a little fluid was discovered in its cavity. On the 12th day all heat and redness had disappeared, and in two months the patient was perfectly cured

SCOTLAND.

[From our Edinburgh Correspondent.]

We begin to feel that the crisis of Medical Reform is not far distant, and it may not be without its use if we give the opinions generally entertained here on the subject. Sir George Grey has announced, that the proposed Bill is nearly complete; and it is understood that, if no unexpected obstacle start up in the meantime, it will be introduced early next session. Without pretending to the gift of prophecy, or to seeing further into a millstone than our neighbours, we are nearly of one mind here that, when next session comes round, the chance of Medical Reform, for our day, will rest on this one cast more. If, owing to new dissensions among the parties whose benefit is more or less directly purposed, the Bill shall either not be introduced, or, after being introduced, shall miscarry, we make sure that the existing race of statesmen will be cured of the ambition to harmonise the discordant elements composing the Medical Profession. The question, then, which should at this moment press on every Medical Institution, on every Medical circle, on every individual Medical man, is,—Shall we cast away this last chance of Medical Reform rather than sacrifice our own particular objects? We take it for granted, that any reasonable measure of Medical Reform, any such measure as can possibly be laid before Parliament next session, though it may not satisfy the wishes of all, must have for its effect the elevation of the character of the Medical Profession throughout the United Kingdom, and the increase of its efficiency as respects the interests of the public. These are advantages worth some price. Some sacrifice of corporate or individual feeling,—and more than feeling it can hardly be,—should not be grudged for the general good, as well of the Profession as of the public. By the system of registration and the establishment of uniformity of education, as excluding the rivalry of imperfectly-qualified Practitioners, every man in practice will immediately benefit. Compared with this gain, how trivial is the disadvantage of a small infringement of any corporate rights? Were we not assured of the fact, it would hardly be credible, that the chief obstacles to Reform have lain with our principal Medical Institutions,—our Royal Colleges, Medical Companies, and the Universities. Surely, it cannot be otherwise than by shutting their eyes to everything beyond their own walls that the individual members of such of those bodies as throw impediments in the way, can justify their conduct to themselves. Of the honesty and uprightness of their intentions not the shadow of a doubt may be entertained; but of the clearness of their moral perceptions, there occasionally lacks proof. They may use the argument that they do no more than practise the immemorial usage of Corporate Bodies when they resist even the appearance of encroachment on the rights in their possession. But if it can be shown that they hold these rights merely in trust for the general good, that these were originally conferred, not to serve private interests, but to invest certain parties, supposed by their position to be disinterested, with power and authority to be employed expressly for the public advantage, then they are bound to satisfy us, not merely that they are acting in the corporate spirit, but that that corporate spirit, in this instance, realizes the end and purpose of their charter. But if there be one thing more certain than another it is, that all our Royal Colleges and Medical Companies, as well as our Universities, exist not for the benefit of the individuals composing them, but for the common good. The restraints which their privileges impose on public freedom are not real grievances, as long as these restraints yield greater public benefits. But it is never to be forgotten, that these restraints are not good in themselves but only by their effects, and no longer than these effects are produced. And when these interfere with the original end in view, the holders of such privileges do not act a conscientious part, when they resist rational reform, merely because it may diminish their personal consequence. If the impending change involve pecuniary sacrifices, they are entitled to ask, and, of course will obtain compensation.

Of the Bodies likely to be affected by the enactments of the forthcoming Bill, some are more or less open, others more or less close corporations. Of the Royal Colleges, the London College of Surgeons is the very type of a close corporation, limited to a small fixed number of Life-Fellows, self-elective, inaccessible to the members of their own body by any means within their own power; and this character it must still retain, notwithstanding the operation of the new Charter, till the Life Fellows become a decided minority. The London College of Physicians, though perhaps as often held to be a close corporation, is close in a very different sense from the College of Surgeons. It is unlimited in number, and it is in the power of every young man of ordinary means, capacity, and respectability, so to direct his studies as to secure his admission into the College, as a Fellow. If it be inconvenient for him to study at

Oxford or Cambridge, he may study at Dublin and yet take his degree at Oxford. Even the signing of the Thirty-nine Articles, in as far as it is requisite, can hardly be said to make the College a close corporation in a country where episcopacy is the prevailing religion. The other Royal Colleges, those of Ireland and Scotland are open to a greater extent—that is, the Fellows are unlimited in number, and by a certain course of education, admission is open to all. Even the Universities are hardly close bodies, when the old constitution of the London College of Surgeons, or what is still its actual constitution, is made the standard.

In the absence of all positive information as to the quarter where lay the chief opposition to the progress of reform during the two last sessions, the Profession is entitled to consider, on general grounds, what weight should attach severally to the opposition of these Corporate Bodies. If the London College of Physicians resist Medical Reform, we may expect, by reasoning with them, to overcome their prejudices; and the same thing is true of the other Medical Bodies of the United Kingdom, whose numbers are supplied from the ranks of the Profession at large. We have no wish that the event should justify our argument; but it is not the less necessary that it should be entered on. As it is a rule which hardly fails, that the more close a Corporation is, and the fewer the number of its members, the more tenacious is it of its privileges, the London College of Surgeons can hardly escape the suspicion of having offered the greatest and the least consistent opposition. And if the remnant of the twenty-one Fellows who once composed the College of Surgeons, and still constitute the majority, having no common tie with the rest of the Profession, oppose themselves to measures of improvement, we can expect no argument to bear on their prepossessions. Estimable as they are individually, and deservedly high as they stand in surgical reputation, their opinions, when adverse to those of the Profession at large, should have no weight. The constitution of this Body under the old system, by which their habits of thinking have been formed, was such as absolutely to preclude their opinion on the proper organisation of the Profession from being just—it is hardly conceivable that, consistently with human nature, they should not see any means proposed for the general elevation of the condition and character of Medical practitioners through a false medium. Whatever raises the general practitioner diminishes the distance of rank between him and them. What we insist on, then, is that their opinion, if opposed to the sensible part of the profession, should have no weight with the Legislature; it should be overruled. Perhaps we wrong the College; and, if so, we shall not be slow to express our regret; for, while we express so much distrust of the present Corporation as represented by the Council, we are far from joining with those who wholly condemn the late Charter. We think it extremely probable, that, as soon as the life members in the Council become a decided minority, that body will come to be really and efficiently representative of the wishes and interests of the most respectable portions of the Profession. We must not forget that the self-election has already ceased, that the number of the electors is unlimited, that the privilege of voting is free to all who choose to qualify themselves by the requisite education and examination, and that the period of a councillor's continuance in office, unless re-elected, will not exceed eight years, so that all that constitutes the peculiar closeness of the Council up to this time will finally disappear. Thus a great reform is in progress of being worked out in the London College of Surgeons; and what we wish to see is a like measure of reform put in motion as respects the Profession at large.

Appointments.—On the recent visit of Her Majesty to Ireland, Sir James Clark, who accompanied the Royal party, was elected an Honorary Fellow of the Royal College of Physicians of Ireland.

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THE MEDICAL TIMES.

SATURDAY, AUGUST 18, 1849.

In the north of England, a numerous sect of Medical heretics exists, familiarly known by the name of "Coffinites," and the drug which these self-constituted doctors employ is the lobelia inflata, which they administer to their patients in heroic doses. Some of these Coffinites have had the misfortune to be charged with the crime of manslaughter, in consequence of persons having entertained the idea, that, instead of curing, they have killed their patients.

At the Cumberland Assizes, about a fortnight since, a young man, named John Wood, was charged with the manslaughter of Thomas Wilson, at Maryport, "by administering to the deceased a certain drug called lobelia, from the effects of which he died." He had been subject to occasional attacks of peritonitis; and, on the 12th of last April, he was again seized with this peculiar inflammation. On the 15th, he became so ill, that Mr. Wood was sent for, who, on his arrival, prescribed an injection of a teaspoonful of lobelia inflata, with other ingredients. He also ordered an emetic composed of a teaspoonful of the lobelia, and in two hours after repeated the doses. It appears that a teaspoonful is equivalent to about sixty grains of the drug, so that the emetics contained together about 120 grains, and the injections the same quantity. After these *remedies*, the patient became worse, and Dr. Pearson and Mr. Curtis were summoned to attend him. He, however, gradually sank, and died in the afternoon of the same day. At the trial of the prisoner, these two Medical gentlemen were called as witnesses, and stated it as their opinion, that the death of the patient was hastened by the lobelia. Mr. Serjeant Wilkins, who defended the prisoner, not only subjected the Medical witnesses to a severe cross-examination, but, in his address to the jury, uttered, we are told, "a sweeping condemnation of the whole Medical Profession." He said that he was once a pupil of the celebrated Mr. Abernethy, who was wont to assert, that "doctors killed more than they cured." The learned counsel, moreover, commented on the notorious disagreements between Medical men on almost every matter connected with the practice of physic, and stigmatized them as more narrow-minded and jealous than any other class of men.

The interest of this trial is connected chiefly with the speech of this learned Serjeant to the jury, in order to obtain a verdict in favour of his client. The law has wisely and humanely allowed the privilege of counsel to those who stand charged with infraction of the laws. This has been done to aid the cause of justice; and it was never intended that hired advocates should, in the exercise of their calling, attack individual character, or denounce a class of men who are, from the nature of their Profession, frequently called to give evidence in courts of law against individuals charged with crimes. Medical witnesses, in presenting scientific testimony before judicial tribunals, appear as the great defenders of the morality of society. They have to speak, as science herself shall dictate, truths which have been revealed to them by a rigid process of investigation, and which no "golden bribe" can induce them to withhold. The medical witness discharges his duty, very frequently, at a great pecuniary loss to himself. To detect crime, he has often to institute expensive chemical analyses; and then, at the assizes, to journey to some distant town, where he is kept for days away from his home, without anything like adequate remuneration. The stern morality of the Medical Profession is nowhere better displayed than in our Courts of Justice; and we hesitate not to say, that the security and advancement of society depend greatly on it.

And this Profession, Mr. Serjeant Wilkins has thought proper to denounce. He doubtless considered himself highly competent to pass a judgment, because he was once a pupil of Mr. Abernethy. Surely the mantle of the Surgeon has not fallen upon the shoulders of the Lawyer. If so, let him, prior to his becoming the advocate of self-constituted doctors, arraigned upon the charge of *mala praxis*, follow his revered master's advice, and take some blue pill to clear away the bile.

We deny that Medical Men notoriously disagree on almost everything connected with the practice of physic, and that they are more narrow-minded and jealous than any other class of men. There are great truths in medicine upon which all are agreed, and in the treatment of diseases there are certain fixed scientific principles to which all bow; diversity of practice, therefore, does not warrant the assertion, that Medical Men disagree on almost every matter connected with the practice of physic. Neither is it true that they are more narrow-minded and jealous than any other class of men. That they have their failings we acknowledge; and that the many different kinds of medical diplomas existing in this country have produced a strife about superiority, we also confess; but we think that as much jealousy exists amongst the members of the legal profession as the Medical; and we are quite sure that the calibre of the minds of the latter is as large as that of the former, our Courts of Justice themselves being judges.

But what must be the effect of Mr. Serjeant Wilkins's statement upon the public in the immediate neighbourhood where it was made? Here a peculiar species of quackery is rife. Men ignorant of the first principles of medical science dare, with a single nostrum, to treat the most formidable diseases. The advocate's sneer at legitimate medicine will encourage them in their dangerous work, while the poor and unlettered multitude will have greater faith than ever in nostrum-mongers, and increasingly become their victims. Surely legitimate medicine, with

all its imperfections, is better than quackery. Why, then, should hired advocates be permitted in Courts of Justice to make unjust attacks upon our Profession? Counsel ought not to be allowed quite so much liberty of speech in defending their clients.

THE CHLOROFORM CONTROVERSY.

When the last month of the year 1846 commenced, Anæsthesia was still an obscure and little known term in Medical nomenclature. But revolutions were then at hand in Medicine as well as in the political world, and now no household word is more familiar in our mouth than the so-lately slighted Anæsthesia. No longer ago than the end of the year 1847 Peroxide of Formyle was a sound to startle an Examiner at the Hall from his propriety now ladies lisp its synonyme Chloroform at tea-tables, and unless they are belied, even inhale it round the circle as a part of the evening's amusement. We can hardly join in approval of such experiments as an ordinary pastime for ladies. But, as long as the knowledge of the effects of Chloroform is still short of complete, and feelings of timidity interfere with its employment in proper circumstances, instead of blaming those of either sex who have courage enough to make themselves the subjects of experiment, we should confess that they lay us under no slight obligation, by turning their natural gifts to the benefit of mankind. We should not forget, that to the courage of a distinguished lady, the last century owed the introduction of small-pox inoculation.

To Chloroform we confine our remarks at present, because we think it would be still premature to discuss the whole subject of anæsthetic agents, notwithstanding the copious materials supplied to us for that purpose in Mr. Nunneley's late elaborate paper in the Transactions of the Provincial Medical and Surgical Association.

All great discoveries necessarily encounter opposition, the reason obviously being, that a discovery is hardly great which does not make inroads upon established opinions and modes of thinking. But there are pseudo-discoveries dazzling with a false brilliancy, against which all sensible people must finally set their faces. How, then, are we to discriminate between opposition to captivating errors, and efforts to stem the progress of discovery because the new truth disturbs or displaces favourite usages or opinions? One answer there is, and little more—the words of the old adage, "*Magna est veritas et prævalebit.*" Something one might expect to gather from the characters of the men who take different sides in such a controversy. But this test will be more easy hereafter than it is at present. When a question turns on the introduction of a novelty in practice which is not the legitimate sequel of principles before recognized, we may expect many persons of the soundest practical sense to rank at first among its opponents. But what chiefly interferes with the utility of the test in question, is the facility with which, in a publishing age like the present, many incompetent people, without leave asked or given, may set themselves up for champions, and damage the cause they adopt. That a man may write a book to serve the cause of his adversary, was already known in the primitive age of the Patriarch Job; and we cannot but think that some of the pamphlets against Chloroform are such books as Job wished his adversary would write. Were we hostile to the introduction of Anæsthetic agents, we should sometimes be forced to cry out, "Save us from our friends!"

But to pass from this class of opponents. Of those who really deserve attention, Dr. Meigs is one of the most formidable; and he is formidable, less by what he says than by the simple circumstance of his being an opponent, while he is a Physician of unquestionable good sense. He is not satisfied with the *prima facie* of the case in behalf of chloroform; he declines to engage in the inquiry himself; he waits till the cumulative experience of others determines the question one way or other. We cannot blame him. He sits, like a cautious judge on the bench, his mind made up not to commit himself till the pleadings on both sides are exhausted. Dr. Tyler Smith is an opponent of less weight than we might expect from his reputation. His lecture on Etherization, in the spring of 1847, has been the rallying point of a little knot of combatants against anæsthetics but the lecture was premature, the proper use of speculative views being, not to weigh facts, but either to suggest new sources of research or to find a principle of connexion among already established facts, so as to secure them against the love of change and the detrimental influence of fashion and cavil. Dr. Samuel Ashwell confounds the use of chloroform in labour with meddlesome midwifery, and so betrays a greater earnestness to find an argument against the practice than to see clearly the true position of the point at issue. Dr. Radford sees nothing but evil in anæsthetic agents. Dr. Merriman, Dr. Montgomery, Baron Dubois, Dr. Snow, and a long catalogue besides, subscribe to the utility of anæsthesia in Surgery, while they limit its employment in midwifery to obstetric operations, "such," says Dr. Montgomery, "as instrumental delivery, turning a child in utero, or the removal of a retained placenta." These, then, occupy the cross-benches.

On the other side, Dr. Simpson concentrates in himself the championship in behalf of chloroform. He acts and speaks like one truly in earnest. His convictions are like the instinctive grasping of a truth which sometimes precedes its development by the regular forms of evidence. His impatience cannot brook the tedious stages of the ordeal through which discoveries commonly fight their way to general reception. His tactics are to expedite the process—to hurry us through all our doubts, delays, and difficulties, without giving our indolence time for a single yawn. So far all is well. But the question is natural—Are we safe in his hands? Some hold certainly we have upon him. He has a reputation to lose. If chloroform in the practice of midwifery be finally condemned, his credit with the Profession, and even with the public, will suffer some discount. Moreover, his talents, and in particular, the penetration and research which originally gave him his reputation, must go for something in the estimate.

But we must hasten beyond these preliminaries. These but prepare the way for the main body of the proof, which can lie only in authenticated facts.

As regards surgical operations, the use of chloroform is quietly settling down into an established practice. If any man still doubts, let him but repair to some Hospital, where the benefit of anæsthesia is afforded to the patients, and we recommend him, if possible, to choose a day when lithotomy is to be the operation. If he has been accustomed to see that operation performed in the usual manner, we assure him beforehand his doubts are destined to undergo a severe ordeal, when he comes to remark what a change chloroform works, both as respects the patient and the surgeon. When he sees the patient, freed from apprehension, still and motionless as in a profound sleep, the perineum like no perineum that he ever saw before—not like that of a statue, not like that of a subject in the dissecting room—but the perineum of a living and breathing man, destitute of sensibility, yet with all the prominence, elasticity, and warmth of life, presenting itself to the knife, to be divided with all the nicety which the unembarrassed tact of the operator can command; and when he sees the surgeon engaging in this once so unmanning task, with a conviction that he is inflicting no pain, and not raising even the thought of danger, however naturally timid the patient may be—when he discovers, that the qualities required for lithotomy are no longer the rare gifts of nerve, coolness, and self-possession, but are reduced to what so few Hospital Surgeons now fail in, namely, anatomical skill and manual dexterity—unless his heart be harder than the nether mill-stone, we think he will ask no further proof, that surgery has acquired a new means of affording relief to suffering humanity.

To come to the same agent in Midwifery,—the real question has to be disencumbered of a quantity of tag-rag unnecessarily pinned on it by either party. The dispute is to be settled solely on obstetric grounds. Theological objections are childish in the extreme—the immodest ideas excited by it, who will believe? Again, is the value of the practice proved by the opposition offered to it, any more than the like opposition tells in favour of Homœopathy? Or must we give in to it, because traces of the same practice are discoverable in the most ancient times? All these topics obscure the real question at issue.

The first point to be settled is, the question of safety. Is it a safe practice? It is more than a year since Dr. Simpson produced a series of Reports from a score of accoucheurs in different parts of Britain, referring to little short of a thousand deliveries in which chloroform had been used, with the effect of convincing the reporters, not merely of its being free from danger, but of its suitableness to avert many of the evils attendant on parturition. Dr. Murphy is hardly less strong in behalf of its safety than Dr. Simpson and his correspondents. And how many more testimonies might be produced now in its favour to the same effect! No doubt it is capable of destroying life, and Mr. Nunneley, in the paper already referred to, has clearly shown how readily it may produce that consequence. But to men in the daily habit of using opium,

conium, hydrocyanic acid, belladonna, and the like, this is an argument of small avail. If an unbiased judgment on this point be, that, in careful hands, it is as safe as the use of the narcotics of daily use in the practice of medicine, any further opposition from a supposed danger attending the anæsthetic state in parturition is but a waste of time.

A second point at issue is, whether the use of chloroform interferes in any respect with the appointed actions by which parturition is effected. Here some discrepancy of statement occurs as to the facts. Dr. Snow objects to chloroform in ordinary parturition, apparently because he thinks it retards uterine action; yet with this limitation, that, in rigidity of the os uteri, and in an unyielding state of the perineum, it shortens the duration of labour very much by relaxing these parts. But, in opposition to what he affirms, we have a host of authorities concurring with Dr. Simpson, that there is no interference, or at least none in any part of the process which is not more than compensated for by the aid afforded in subsequent stages. Dr. Murphy says, "it does not interfere with the action of the uterus, unless it be given in very large does, which is never necessary." Dr. Malcolm says, he has never seen the uterine contractions arrested by its use, though he has no doubt a large dose would have that effect; and Dr. Moir thinks that, in some cases, when chloroform is freely administered, it may retard the pains a little, and may even lessen their power; but, while he expresses this doubtfully, he says he is quite satisfied that "the second stage is much accelerated, especially towards its termination, by the chloroform doing away with the resistance offered to the expulsion of the head by the muscles at the outlet of the pelvis." Here the opponents of chloroform in ordinary labour fight at a disadvantage, repelling observation with assumption; for, as they do not employ chloroform in these circumstances, they have no opportunity of ascertaining whether it does or does not check the natural progress of parturition. Unless, then, cause can be shown why the powers of observation, or the good faith of the promoters of chloroform in natural labour, should be distrusted, this point must be held to be settled on the side of chloroform.

Much has been said against the abolition of pain in parturition, on the ground that pain is physiologically an element in the natural process. Our first impulse here is to ask, if this be sense or nonsense. How far, then, is it sense? It is undeniable that pain in general is a physiological element—that important ends are served by pain in the animal economy. And, doubtless, by the pains of parturition, some essential purposes were designed originally to be fulfilled; without the attendant pains, for example, a woman might be delivered in sleep in a manner fatal to her offspring. In ruder times, but for the pains and cries of childbirth, a woman might not have been usually afforded that sympathy and aid so little short of indispensable to her own safety and the preservation of the infant. But in the social state as it exists among us, who shall say that pain may not have ceased to be an essential physiological condition of parturition? At all events, the only legitimate use of the admitted principle, that pain is an original physiological element in parturition, is to suggest an objection to the abolition of pain in the process. But to render that objection of effect, it must appear by observation that the abolition of pain, under present circumstances, renders the process less adequate to its proper ends than when the natural pains are allowed to take their course. But we have seen that there is the best reason to think that chloroform does not interfere with the appointed acts by which parturition is effected, and it is therefore established that the process can take place in full perfection, independently of the perception of pain. Under this head, then, the question is again decided in favour of chloroform.

If this last point require any further illustration, we would remind our readers that the physiological state of mankind is not stationary, like that of the rest of the animal kingdom, but progressive, and that pains and pleasures multiply, apparently in opposition to the original laws applicable to the race. But, surely, no one will seriously maintain that man's development as a social being, by which a thousand modifications are produced on the original condition in which the earth at first received him, is not as much the work of the Author of his being as is the onward progress of his bodily frame from a hardly visible germ to the full perfection of its actions in adult age.

To discuss, as a separate subject, the use of chloroform in obstetric operations, is no longer necessary. As a principle it is hardly disputed; and it shares in the general consent to employ this agent, as an invaluable aid, in the painful operations of Surgery.

But to sum up our statement—the determination of right or wrong in the employment of anæsthesia during natural labour is not to be founded in the last resort on *à priori* arguments—it plainly becomes narrowed to one or two simple questions of fact; namely, Is the prolonged use of chloroform sufficiently safe? and, Is it proved that the effect of this agent does not injuriously interfere with the natural acts on which parturition depends? These two questions we feel warranted, by the consideration now given to the subject, to answer in the affirmative.

ON THE SUPPLY OF WATER TO THE CITIES OF THE AMERICAN UNION.

The subject of employing leaden service-pipes for the introduction of water into some of the great cities of the United States, has lately occupied the attention of a Board of Physicians and Surgeons of Boston. The inhabitants of this place are about to be supplied with water from the Cochitnale Lake, and as the water of certain wells was found to act rapidly on lead exposed to its influence, it became a matter of importance to see what would be the effect of the water of the lake on that metal.

The investigations of the American Physicians will be interesting to the English Medical Profession, from the circumstance of a recent serious illness having afflicted the illustrious exiles at Claremont, and also from the fact, that in some other localities families have suffered from peculiar symptoms, which have been ultimately found to result from the drinking of water impregnated with lead.

The Municipal authorities of Boston appointed a Board of Consulting Physicians to report to the City Council on the materials most entitled to preference for water pipes, and Professor Horsford, of Harvard University, instituted a series of experiments, which, with "a great mass of evidence, derived from very extensive observation of the use of leaden pipes for a long series of years," have led to most important conclusions.

From a Report of the Water Commissioners, we learn that they were compelled to begin the work of laying down the distribution pipes, while the eminent physicians and chemists were prosecuting their investigation. As they had not made known their opinion, it was deemed improper to make use of a material which might in the result be proscribed as dangerous to the health of the citizens. Iron pipes, therefore, of one and a half and two inches in diameter, were laid down for carrying the water from the street mains to the side walks, and in part to the dwelling-houses. The cost of these tubes was considerably higher than those of lead, and in laying them down it was found that they were more liable to be broken. In the meantime a variety of experiments were instituted upon tubes constructed of other kinds of materials, and we will briefly place the results before our readers. In those made of block tin it was found that some waters gradually dissolved the metal; and that the decomposition did not cease in a short time like that of lead under the same circumstances, but continues indefinitely as far as any experiment has been made. Tin is also liable to rapid decomposition by being brought into contact externally with certain acids and gases, to which in various positions it may be exposed. The question, whether these changes which the metal undergoes produce any deleterious effect on the water, has not been satisfactorily answered.

Pipes of malleable iron were found soon to corrode, and the rust not only rendered the water unfit for use in the washing of linen, but in process of time it closed the apertures of the pipes.

Tubes of sheet iron, coated internally with hydraulic cement, promised to be highly useful under certain circumstances. The cement served the double purpose of giving additional strength to the pipes, and of preserving them from rust when exposed to moisture. One great impediment, however, to the employment of the coated iron will be the expensiveness of the materials.

According to the "Report," the Consulting Physicians have not thought proper to recommend distribution pipes, composed of lead, till further experiments had been made. It was desirable to reconcile the fact, that lead immersed in water taken from the Jairmont, Croton, and Jamaica Pond water-works, undergoes a perceptible partial dissolution, with the well-attested evidence that the inhabitants of Philadelphia, New York, and Boston, were constantly using these waters, drawn through leaden pipes, without injury. Professor Horsford, after a most searching investigation, has

arrived at the conclusion that the action of the comparatively pure water of lakes and rivers upon bright bars of lead, which on their immersion in it is distinctly perceptible, ceases after a few days, and that the coating thus formed remains unchanged for a long period. Not a trace of lead has been detected in water which has passed through tubes thus affected. The Professor, however, states, that when nitrates are found in water, it always acts more energetically upon lead, and that the unequal proportion of these salts constitutes the chief distinction between different waters in their relation to the metal. Wells and springs so situated as to be replenished by the filtration of water through a soil enriched from the stable, or by the wash from collections of animal substances, nearly always contain nitrates. The water having been in contact with lead, becomes dangerous to the health of those who drink it, or use it in the preparation of their food. This will account for the fact that the water of wells situated—as are a large portion of those in towns and cities, and of springs located—in the midst of richly cultivated fields, or in the vicinity of animal deposits of any description, will produce the chemical effects here referred to, while the waters of rivers not particularly exposed to contact with substances of that nature will be destitute of any such power.

By making known the researches of our American brethren we may, perhaps, be doing some service to the inhabitants of this great metropolis. Hitherto the Thames water has not acted to any extent upon the leaden pipes by which it is conveyed to the houses. The animal matters, however, which are conveyed into this river are continually augmenting; not only polluting the water, but making it more capable of forming those salts of lead which will certainly prove highly injurious. Our daily contemporary the *Times* will, we hope, make use of this fact in its future efforts to prevent the *excreta* of London being poured into the Thames.

DISTRICT LUNATIC ASYLUMS IN IRELAND.

We had hoped, that it might not have been necessary for us to recur to the above-named Charities, unless in terms of praise at the amended regulations and the reforms promised in the last report by the Government Inspectors. These regulations and reforms are not yet forthcoming; nor, we fear, is it likely that the appointment of *resident* Medical Superintendents, with strictly and clearly defined rules for the performance of their duties *as such*, will take place until we again apply the test of public opinion to the details of the present absurd and paralyzed system. The statement that medical gentlemen are, as vacancies occur, nominated by Government to the office of Resident Managers, while *by rules of Government still in full operation* to prevent them, unless by an open violation of these rules, to administer the slightest medical aid to an inmate of their Asylum, is too frivolous a defence to stand for a moment the test of humanity and intelligence. In the kindest and best spirit we call upon the two Commissioners who preside in Ireland over this great branch of the Profession, to enter at once and fearlessly on the real and substantial fulfilment of their promise to the public and to their brethren. They owe it to themselves and to their high position to do so; and, in after years, the gratification they will assuredly feel, when reflecting on the benefits they were instrumental in conferring, not only on the Insane, but on the Profession in Ireland, may more than counterbalance any ephemeral and interested adulation they now possibly receive, from the few who gain by the existing condition of the District Lunatic Asylums of that unfortunate country.

DR. SEYMOUR AND DR. CHAMBERS.

We have hitherto refrained from noticing the disgraceful controversy between Dr. Seymour and Dr. Chambers—disgraceful alike to the anonymous and foul writers of the scandalous letters, to the person ignominiously branded as their Author, and —we would almost say still more—to those who, upon any proof short of actual demonstration, brought the cruel and the loathsome charge.

Reluctant as we confess ourselves to sully our pages with this meretricious subject, and determined as we are to take no part in what we conceive to be as distasteful to the great body of our readers as unfit for the pages of a Journal such as the *Medical Times* professes to be, we feel, nevertheless, called upon to publish the following letter from Dr. Seymour chiefly because, without going into any details of the circumstances, he denies, in language which cannot be misunderstood, the imputations thrown upon him. In giving insertion to the letter, we beg to remind both the parties more immediately concerned, that while the quality of mercy is twice blessed in blessing him that gives and him that takes, scandal and calumny are doubly cursed; and, like the discharges of the beastly yahoo from its unhallowed tree, though they may miss the passing traveller, they never fail to bespatter the filthy thing itself.

[To the Editor of the Medical Times.]

SIR,—As Dr. Chambers has addressed a letter to the *Lancet*, of the 11th inst., maintaining, that he possesses proofs (without stating them) that his *ex parte* assertions in the *Lancet*, of the 9th of June, relative to certain anonymous letters, are true, and thereby, contrary to his own acknowledgment in writing, imputes to me some knowledge of the base and stupid anonymous letters received by him in June, 1848, and the suspicion carefully concealed from me until March 30, 1849, while he whispered the calumny to others; and wishing to make my solemn denial as public as possible, I request you will insert this declaration in the next number of your Journal.

Upon my faith as a Christian, and my word of honour as a gentleman, I never had anything whatever, either directly or indirectly, to do with any anonymous letters addressed to Dr. Chambers, or to any other person. With regard to all other allegations, I adhere to my statement of the 9th of June.

As to Dr. Chambers's declaration of his readiness to produce the proofs of his statements; I have only to observe, that his not having done so long ago was no fault of mine, and I can assure him that they should long since have been before the public, if he or his friends had ever given me the opportunity (anxiously wished for) of compelling their production in open Court.

On the contrary, instead of publishing his *ex-parte* proofs, Dr. Chambers and his friends first acknowledge, both in writing and most unequivocally in speech, their utter disbelief of my being connected with the anonymous letters, while they sustain the accusation by insinuation.

I join with Dr. Chambers in the expression of regret contained in his letter to the *Lancet*, that a matter of this nature should so long have engaged the attention of a liberal Profession; and I will go a step further, and express my sorrow that I, a member of that Profession, only desirous of discharging its anxious duties in tranquillity and good faith, should, behind my back, have been made the object of secret inquiries and calumnious imputations by those who were my professional colleagues, and whom I had, through a series of years, considered as my private friends.

I am, Sir, your obedient servant,
EDWARD J. SEYMOUR, M.D.
13, Charles-street, Bedford-square,
August 13, 1849.

THE OPERATIVE SURGERY OF JOHANN FRIEDRICH DIEFFENBACH.

Edited by
J. STEVENSON BUSHNAN, M.D.,
Fellow of the College of Physicians, Edinburgh;
And
ALEXANDER URE, Esq.,
Fellow of the College of Surgeons of England, and Surgeon to the Westminster General Dispensary, &c.

(Continued from page 125.)

CHAPTER II.

(Sutures continued.)

III. THE SUBCUTANEOUS, OR LACED SUTURE.

This is peculiar, in so far as it lies under the skin. All other sutures transfix the edges of the wound, and bring them into contact; but, in the subcutaneous, the thread runs in a circular manner, at some distance from the wound or fistula beneath the skin, round the aperture, which it embraces, like the ligature of an artery. It bears, accordingly, no affinity to the preceding varieties of suture, inasmuch as it encircles the gap merely at a remote point, and laces it in from the centre.

The execution is more difficult than with stitches, as generally applied to recent wounds, having the form of a cleft or a flap. Here, on the contrary, it is resorted to in round preternatural apertures, invested with cuticle, which have been eroded, cauterised, incised, or excised, and sundry inlets and outlets of the body. The procedure is as follows; —A puncture is made through the skin with a strong curved threaded needle, held laterally anterior to the eye, in the forceps used for that purpose, at some distance from the opening meant to be closed, and of which the edges have been previously inflamed with caustic or pared level. The needle is next carried under the corium into the cellular texture, always observing the same relative distance from the aperture, in such wise that a sweep of a quarter or a third of a circle is described. The point is then directed upwards, passed through the skin from within outwards, and drawn together with the thread some inches externally. The needle afterwards returned through the same opening beneath the skin, made to describe another quarter circle, emerge from beneath, and to pass a third or fourth time beneath the integument, until the whole aperture is engirt with the thread at one uniform distance. The needle is finally brought out again at the original puncture, and, with the thread hanging a finger's-length out of the aperture, together with that still remaining in the eye of the needle, the constriction of the aperture is to be effected. If the opening be small, and the thread convenient, it is tied with a couple of knots, but not so firmly as during the ligation of a large artery. The knot rests upon the puncture, and generally drops into the little pit in the skin. Hereupon the ends are shortened, and the margins if torpid, pencilled over with tincture of cantharides, otherwise bound with strips of plaster, to favour the process of subcutaneous conglutination, and to exclude air from the punctures.

In large openings and fistulæ intended for closure, as in the instance of artificial anus, where the finger can be introduced, the same mode of ligature is adopted, but on a greater scale. For a narrow urinary fistula, I take a common thread and a fine curved needle, and puncture not further than two lines from the edge. I then have recourse to one of the largest hafted needles, armed with a hank, consisting of from four to eight strong waxed silken threads, and carry this round the orifice at an inch apart from it, until the thread is again brought out

with the needle at the original puncture. To prevent untimely division of the soft parts which might interfere with union, it is advisable to pull the ends of the thread together sufficiently tight to bring the margins of the opening into moderate contact; a round piece of cork, notched in the middle laterally is placed betwixt both ends of the ligature, a knot made in the groove, and afterwards a loop, which is to be fastened after the interval of a few days, or whenever the ligature has become slack.

Small fistulous openings are sometimes closed by the first suture. The appliance need not be examined until after the lapse of four or five days; if the thread is fast it may be allowed to remain during eight days, and its withdrawal rather deferred than hastened. The same plan is pursued as for the removal of an interrupted suture; the ends of the thread are first put on the stretch, the ring in the enlarged puncture cut through with very fine pointed scissors, and the ligature carefully removed.

In the instance of wide orifices, the suture is tightened every other day, even should closure not have been effected; but great caution must be observed, lest the thread cut its way out before at least a fortnight or three weeks have expired. In the most favourable case, or in one less so, the thread ought not to be meddled with prematurely. Even should it have severed all the intervening textures, there ensues a very considerable diminution of the aperture during the prolonged irritation of the edges and adjunct parts, partly due to the shrinking marginal scar, partly to the subcutaneous coalescence of the parts divided by the thread.

To the employment of this suture I owe many cures in cases which resisted all other means. Its application, indeed, is frequently a troublesome, tedious, and oft-to-be-renewed undertaking; it has, however, this advantage, that each failure is not, as after the evulsion or suppurative disruption of the interrupted or twisted suture, a virtual, but merely a partial one, and conducing, in the long run, to the end in view. The operation ought, therefore, to be repeated until the aperture is quite closed, always going over the same ground as at the beginning. It is particularly suited to salivary fistulæ, urinary fistulæ of the male urethra, vesico-vaginal and recto-vaginal fistulæ, vesico rectal fistulæ, stercoraceous fistulæ and artificial anus. In all likelihood its sphere of usefulness will be yet further extended. Omitting any notice of the quilled suture, the glover's suture, and other antiquated modes of stitching, which have justly fallen into disrepute, the next subject in order is :—

THE UNION OF WOUNDS BY ADHESIVE STRIPS.

All wounds are thus united that are capable of being healed by the first intention, and of which the lips can be retained in contact without apprehension of their breaking open or getting displaced; where likewise the employment of sutures would be superfluous, or else injurious from risk of irritation, as in wounds of the scalp. In the opposite instance, also, where the integument is lax and yielding, or redundant, as after the extirpation of voluminous tumors. In those cases again, where no decided measures need be taken for promoting direct union, or hindering suppuration, as after various amputations. Finally, where a deep formation of pus may be anticipated, and any forcible attempts at knitting the edges by suture would eventually necessitate an opening up of the wound.

The strips of plaster to be applied across the wound after all bleeding has ceased, and the surface been well dried, vary in length and breadth according to its size and the tension of the skin. They are to be supported by transverse strips placed sideways. The assistant is directed to bring the edges accurately together; and to wipe away, with a soft dry cloth, any blood that may remain after previous sponging. The middlemost strips are first laid on, one-half being made to adhere to one side of the wound, and then the other half with gentle pressure to the opposite, in order to keep the edges together. The amount of space between each, is to be regulated by the breadth of the strips. Pressure is to be made, for a few seconds, with a folded towel upon the track, so as to strengthen the adhesion, and get rid of any effused blood. After this, the intervals are to be fitted up by similar strips, until the whole is covered with plaster. Where the skin retracts considerably, the strips hold better when put slantwise athwart the wound, and these duly crossed with others also slanting.

Fine incised wounds of the face and the fingers are best conjoined with court-plaster; of this, a small strip is taken in forceps, dipped in water, so as without removing the glue to render it soft and sticky; one-half is then applied over one side, and, after allowing a moment or so for its adhesion, the remainder is gently pressed down in such wise as to bring the lips into contact. In this manner the requisite number of strips are placed over the whole extent of the incision.

MR. FERGUSSON'S CASE OF MORBUS COXARIUS.

[To the Editor of the Medical Times.]

SIR,—I have no doubt it will interest your surgical readers, to know the present condition of the patient upon whom Mr. Fergusson performed the operation of excision of the head of the femur in January last.

The case is that of the little girl Vigoen, the particulars of which were given at full in Mr. Fergusson's Clinical Lecture, published in your Journal in April.

At that time she left the hospital to go into the country, being able to walk about on crutches.

Seven months having now elapsed since the proceeding was put in force, I yesterday, in company with my intelligent friend, Mr. Hugman, the author of a late work on "Morbus Coxarius," visited the child at her home at Greenwich, and, together with the above-named gentleman, minutely inspected her. The following we found to be her condition :—

The whole length of the extensive cicatrix is in a very firm and healthy state, with the exception of a small portion of the centre, where there is a slight weeping, as one usually sees in scrofulous subjects, after excision of joints, for many months after the operation.

The centre of the thigh, when measured, is as large round as the other. A false joint has formed. *There is perfect flexion and extension of the thigh upon the pelvis.* The power of adduction is considerable,—the power of rotation onwards is slight, as was the case in Mr. White's and Mr. Fergusson's other patients; and, as always must necessarily happen, the insertions of the pyriformis gemelli, and obturators, being cut through. Foot, neither inverted nor everted; whole limb shorter than the other by two inches, although considerably more of the bone was removed.

The patient can plant her toes firmly on the ground, and walk without the assistance of either stick or crutch. Her general health is, in every respect, perfect; she presents, indeed, a happy contrast to the poor miserable creature who was lying crippled in her bed before the operation.

The parents who had, to use their own expression, "beggared themselves in order to get some relief for their child," and who had seen her sufferings so long, are impressed with a sense of deep and lasting gratitude to that distinguished Surgeon, who, by a proceeding creditable alike to his humanity and skill, has brought health, joy, and comfort, where before there was nothing but suffering and despair.

I send this account of the present condition of the patient, not for the purpose of reviving a controversy when evidently there is now no longer any necessity for it, but for the purpose of fairly and honestly laying before the Profession the actual results of this so-much reviled operation, and of showing those of them who are fond of looking forward, and not retrograding, that excision of the head of the femur will be attended with those good results which we expected would follow, when it is undertaken in suitable cases, and with proper care.

But it is more especially for the information of Professor Syme, and those who may agree with him respecting the barbarity and inutility of this operation, that I have taken the trouble to go some miles out of town, and minutely examine this patient. If the learned Professor is one who will be convinced at all, (and I say this with the greatest respect for his high professional character,) he must admit that the results of this case, together with those before published, silently and triumphantly proclaim him a vanquished man, and I sincerely hope, for the credit of Edinburgh surgery, that he will openly retract his written opinions respecting this proceeding, and, even if he does not think fit to do so publicly, it is to be hoped that he will give the pupils of his class, which will re-assemble in the forthcoming session, views respecting this operation totally different from those they have been accustomed to hear propounded.

I may in conclusion state, that the above-mentioned case is the more interesting, inasmuch as before Mr. Fergusson operated, the little patient was under the care of a hospital surgeon, one who ought to be well acquainted with, and able to make use of all the resources of his art, (I could mention his name if I chose, and would fearlessly do so if necessary;) and when it was proposed to him to perform the operation for the relief of the patient, he merely laughed at the proposer of *such an absurdity* as cutting out the head of the thigh-bone in a living human being, with any prospect of safety or advantage.

I remain, yours obediently,
HENRY SMITH.

13, Caroline-street, Bedford-square,
August 10, 1849.

POOR-LAW MEDICAL APPOINTMENTS.

[To the Editor of the Medical Times.]

SIR,—I often have great pleasure in reading your weekly periodical, and have always found you the strenuous advocate of the Poor-law Medical Officers. There are, however, some points which you appear to have left entirely out of the question.

It is notorious, that the great majority of those officers are young men, who have undertaken duties at a price so low, as precluded the old-established men from conscientiously continuing them without a serious loss. These young men were well aware of the shamefully inadequate terms before they engaged themselves; but the low salaries they hoped to counterbalance by making inroads on their neighbours' business. Why, therefore, do they now complain? Are they disappointed in their expectations? If they made the engagement from ignorance, such could not be the case after a year or two's experience. Again, if they find their duties too onerous for the paltry salary, they had better adopt the example of Mr. Mitchell, of Kennington, and resign their appointments. Be assured, while the guardians can procure men who will undertake the office at low salaries, it would be folly to expect them to give high ones. There is, however, I regret to say, one result of a most serious kind from engaging low-priced medical men, viz., that the poor are most inefficiently and negligently attended. These cheap medical men never think of doing their duty properly, and instead of proper medicines, &c., mutton, beef, brandy, and gin are but too frequently substituted. A long and intimate acquaintance with these matters enables me to speak most positively on this most important subject. Now, it only remains to suggest a plan for remedying many of these evils. It has always been a matter of much regret among the poor that they cannot choose their own doctor; they are obliged to have the one appointed by the Board, whether he is attentive, skilful, or otherwise. Surely some deference ought to be paid to the wishes of these poor creatures, whose comforts are so very limited, and, above all, the poor woman, in the hour of travail, should be allowed to have the medical attendant of her choice. If anything is calculated to allay the sorrows of child-bed, it is the confidence inspired by having her own selected attendant. Why should this boon be denied the wife of the poor man? The following plan, therefore, is proposed as a remedy for several of these evils, and ought to be regularly and uniformly adopted by all Guardians' Boards, and enforced by the order of the Poor-law Commissioner; viz., let every Board of Guardians engage as Medical Officers ALL *the properly qualified medical men* residing in every district, who may be willing to act as such, at a given sum per sick person during the year. That the sum for every such sick person shall be at least 2s. 6d., however long or frequent the illness may be during the current year. That every sick pauper, when he first applies to the relieving officer, or other competent authority, shall receive a "sick ticket," which he may take to one of the medical officers, such as he may choose, and he must be attended by the same medical officer in every succeeding illness during *that* year.

That the medical officers shall be paid at the year's end for as many tickets as they then produce. That the present regulations respecting extras as now exist shall continue, with the exception of midwifery. That for every case of midwifery within one

mile of the medical attendant's residence, shall be paid 10s. 6d. For every case at a greater distance than one mile be 21s.

The above plan should not be confined to the present period of emergency during the existence of the present epidemic; but should continue permanent, and without doubt would obviate many of the inconveniences of the present most unsatisfactory and objectionable system—alike unsatisfactory to the Guardians, rate-payers, medical officers, and poor.

I remain, Sir, yours, &c.,

AGRICOLA.

CONVENTION OF POOR-LAW MEDICAL OFFICERS.—THE POOR-LAW BOARD AND THE GENERAL BOARD OF HEALTH.

[To the Editor of the Medical Times.]

SIR,—The great interest now taken in the subject of Poor-law Medical Reform, leads the Committee to beg the favour of your publishing the following Correspondence:—

(Copy.)

TO THE PRESIDENT OF THE POOR-LAW BOARD.

4th and 5th Wm. IV. c. lxxvi., clause 46:—"And the said Commissioners may, and are hereby *empowered*," &c., &c., "and *when* the said Commissioners may *see occasion*, to REGULATE the AMOUNT of SALARIES PAYABLE to such officers respecting," &c. &c.

10th and 11th Vic., c. cix., clause 10:—"And be it enacted," &c., &c., "that *all* the powers and duties of the Poor-law Commissioners with respect to the administration of relief," &c., &c., "and *all other powers and duties* NOW *vested* in them, shall be TRANSFERRED to and VESTED in the COMMISSIONERS, and shall be thenceforward exercised by them under the provisions of this Act," &c., &c.

Sir,—The Poor-law Board having the power, as evidenced above, "to regulate when they may see occasion the amount of salaries payable to officers respectively," the Committee of the Convention of Poor-law Surgeons take leave to memorialize you, who have already considered the position of Poor-law Medical Officers, that you may issue such orders as may secure a payment to them in accordance with the extent of their duties, and the cost incident to the supply of medicines and the maintenance of establishments needful for an efficient administration of medical relief to the sick poor.

Although your Memorialists have expressed the opinion, that a Board specially constituted for the supervision, control, and payment of Poor-law Medical Relief (now extended to near three millions of Her Majesty's subjects in England and Wales), with the whole cost thereof, derived from the Consolidated Fund, would be the best means to secure justice to the Union Surgeons, and the fullest advantage to the sick poor, they are willing to waive for the present this view of the subject, under a sense of the difficulties which beset its immediate introduction.

They beg, however, in the most earnest manner, respectfully to submit to you, that an exercise of the authority and power of the Poor-law Board, as shown to exist in the citations from the Acts of Parliament, would be equal to such a diminution of their admitted grievances, as might render their tenure of office, and the rigorous performance of their obligations, less painful and humiliating to themselves, and in many ways more beneficial to the suffering poor.

They, therefore, respectfully suggest—1st, That henceforth the Poor-law Board should, by a special order, direct that all appointments of Medical Officers be as durable as their good conduct and capability and willingness to continue therein.

2ndly. That the amount of payment be based on a calculation of the number of cases attended in a given district during the past three years; that the fixed salaries be arrived at by determining 6s. 6d. as the average sum to be paid per case throughout the country.

That the provisions of the Medical Order in 1842, for extras, be enforced in all Unions, and under all circumstances be made binding, except that the operations performed in the house be awarded the same fees allowed to out-door cases. Also, that a special provision be forthwith made to secure a just compensation for the enormous extra labours which are entailed upon the Union Surgeons through the Board of Health, under its general powers and regulations, more particularly during the presence of Cholera or other epidemics.

We beg to call your attention to the subjoined copy of a letter, recently received from the General Board of Health on this subject.

We have the honour to be, Sir,

Yours very respectfully,

THOMAS HODGKIN, Chairman.

CHARLES F. J. LORD, Hon. Sec.

July 23, 1849.

(Copy.)

Poor-law Board, Somerset House,
August 1, 1849.

Gentlemen,—I am directed by the Poor-law Board to acknowledge the receipt of the communication signed by you on behalf of "the Committee of the Convention of Poor-law Medical Officers," and to inform you, that the suggestions contained in the communication shall receive the best consideration of the Board.

The Committee are, however, so well acquainted with the subject of Poor-law medical relief, that it is unnecessary for this Board to point out to it the difficulties which exist to any immediate and general alteration or modification of the present system.

As regards the suggestion of the Committee, "that a special provision be forthwith made to secure a just compensation for the enormous extra labours which are entailed upon the Union Surgeons through the Board of Health under its general powers and regulations, more particularly during the presence of Cholera and other epidemics," I am directed to state, that the Poor-law Board are not empowered to lay down any prospective scale of remuneration for such services, but that the power of granting a reasonable compensation on account of extraordinary services is vested in Guardians, with the approval of this Board, by the proviso to Art. 172 of the General Consolidated Order, and that such power has already been acted upon in several instances.

I am, Gentlemen,

Your obedient servant,

W. G. LUMLEY, Assistant-Secretary.

To Thos. Hodgkin, Esq., Chairman, and Chas. F. J. Lord, Esq., Honorary Secretary of the Committee of Poor-law Medical Officers.

It should be observed, that no "prospective scale of remuneration" was sought from the Poor-law Board by the Committee. The memorial and application for relief arose less from the additional labours which an alarming epidemic like the cholera must induce, than from the vexatious returns and reports of cases for the public advantage, and the liability of the Union Surgeons under orders from the General Board of Health, to examine nuisances, and to report as officers of health.

The provision of Article 172 of the General Consolidated Order certainly might be sufficient to provide adequate remuneration to Medical Officers; but experience has proved, over and over again, that merely *permissive* clauses will not reach the existing evil, admitted by all concerned to be very great.

The answer from the General Board of Health in reply to the Committee appeared in your Number of July 21st; it throws the onus of providing for the Medical Officer upon the Poor-law Board; this Board politely hand the case over to the Board of Guardians. Mr. Mitchell's experience may be considered an average sample of the mode in which these functionaries will deal with applications for advanced payment to Medical Officers. Mr. Mitchell had been the Medical Officer to the parish for eighteen years. *Three halfpence* per cholera case, whether occurring night or day! He made equitable propositions to the Board, but the Lambeth Guardians paid no attention; in consequence he sent in his resignation, which was accepted.

Seeing the Union Surgeons thus bandied from one Board to another, and, as a body, redressed by none, the simple adage of "a fall between two stools" occurs to the mind; and even a saying of the quaint William Cobbett, about John Bull being persecuted by two sets of thieves,—the Whigs on one side, and the Tories on the other.

It is gratifying, however, to turn, for a moment, from this dark shadowing, to the light which breaks in from the Union to which Mr. Vallance, the intrepid advocate of a better system of Poor-law medical relief, is the well-tried Medical Officer. He reports, to the credit of the Board of Guardians of the West Ham Union, that a sense of justice has impelled them to pay 1*l.* per case of cholera, to whomsoever the professional attendant may be; and also 15 per cent. (for six months) upon the annual amount of the salaries paid to their Medical Officers, as some remuneration for their services as officers of health. If other Boards would obey the injunction of ancient Writ, "Go, and do thou likewise," there would be less cause to trouble you with these details.

I have the honour to be, Mr. Editor,

Your very obedient Servant,

CHARLES F. J. LORD, Hon. Sec.

4, Hanover-square, Aug. 12, 1849.

THE NATIONAL INSTITUTE.

The Third Annual General Meeting of this body was held at the Hanover-square Rooms, on Wednesday, the 8th inst.,

N. CLIFTON, Esq., in the chair.

The Chairman, in opening the proceedings of the evening, said: Gentlemen,—I cannot fail to express my regret, that the attendance of Members on the present occasion is so small; but I take it for granted, that this arises partly from the circumstance of gentlemen being so much occupied at this particular time, and partly because it may be thought that this is merely an official meeting, though really it is one of great importance to the Profession. The hopes and expectations which we had been led to cherish have been disappointed; but they were founded on the assurance, from official persons, that a Bill would be brought into Parliament for the better regulation of the Medical Profession. It had been the constant object of the National Institute to promote the objects of such a measure; and the Lord Advocate had stated to us, that it was his intention to lay on the table of the House such a Bill in the just closed session. That has not been done. Gentlemen are aware, that the position in which the Profession now stands has been brought about by the bad faith shown by the Council of the College of Surgeons, in respect to their late Charter, and the way in which they have carried out its provisions. Sir James Graham's Bill was only interrupted by this body, when we had almost been brought to realize our hopes. And during the last Session fresh conferences have been held, and the Delegates from the Council of the College of Surgeons had at first agreed to all that had taken place; but when they went back to the Council, this body repudiated what their delegates had before assented to, and left us in our present position. (Hear, hear.)

Mr. Ross, the Secretary, then read the Report.

This document consisted of a calm and lucid statement of the various important transactions in which the Council had been engaged during the past session of Parliament. During the session 1847-8, a Special Committee of the House of Commons was occupied in taking evidence upon the state of the laws governing the Medical Profession, and several members of a Conference representing the various interests that were to be considered and provided for by Medical Legislation, were called upon to give evidence. That Conference had already agreed to the principles of a general measure and to the outline of a Bill, which were submitted to the Committee. That Committee, however, broke up without making a Report, and the inquiry was thus suspended. On the re-assembling of Parliament, the Council were anxious that the Conference should resume its labours, and the necessity for taking further steps was pressed upon them, by the fact of the Legislature having, without consulting any formally constituted body, passed an Act by which four new Colleges were established in Ireland, with power of granting Degrees in Medicine, with more limited study, and at lower fees, than at present obtain. The Council of the Institute called the attention of Conference to this matter, and a meeting of the Committee of the latter body, was held, at which a Memorial was adopted to the Secretary of State, complaining of the difficulties likely to arise in the way of Medical Reform, and the adjustment of differences in consequence of this step,—tending as it would to lower the standard of Medical Education,—and entreating Sir George Grey to cause a *Bill*, founded on the labours of the Parliamentary Committee of the last two sessions, to be brought in speedily. After other meetings of the Conference, a Deputation from the Conference had an interview on the 5th of March with the Lord Advocate, when he gave assurance of the subject receiving his best attention and hoped to bring in a Bill. Up to this time, it had been supposed that the delegates of the Conference were agreed as to the leading principles of the proposed measure. On the 20th of March, however, the Council of the National Institute were informed, that a meeting of the Conference had been

called at the instance of the delegates of the College of Surgeons, for the purpose of ascertaining whether it was the intention of the Generall Practitioners that the application for a Charter was to proceed *pari passu* with a general measure or otherwise. The National Institute having replied in the affirmative, a resolution of the Conference to that effect was taken. On a second interview with the Lord Advocate, the Council of the Institute having asked his Lordship to report progress as to the promised measure, they were told that certain objections having been raised by the College of Surgeons, while he was still disposed to proceed with his Bill, he yet desired first to obtain the general accordance of the Conference Committee. Another meeting of the Conference was convened, and it then came out that the College of Surgeons objected to the New College having the power of examining in surgery, which the National Institute contended for, and as having been already established by resolutions of the Conference. Nothing, however, resulted from this meeting. At a subsequent interview of the Conference with the Lord Advocate, the College of Surgeons reiterated their objections, and the Delegates from the National Institute then read a Declaration to His Lordship, in which they represented that it was essential to a settlement of the Reform Question, that the General Practitioners should have the unrestricted right to regulate the education and examination of the Candidates for admission into their body, subject only to the general supervision of the controlling Council, and they believed that this right had formerly been conceded by all parties. This Document not leading to a reconcilement, the Lord Advocate stated that, in such circumstances, he could not think of advising the introduction of a Bill, recommending an arrangement of differences, and inviting another interview. At a meeting of the Conference, on May 2, a Resolution was unanimously agreed to, giving to the Council of the College of General Practitioners the power to direct the entire course of study, and to test the competency of Candidates for the Diploma of the College; but with an understanding that their competency to practice surgery should not be specified in the Diploma, such being provided for by the subsequent Examination of the Royal College of Surgeons. Since that period the Conference had not met, but a Deputation from the Institute had an interview with the Lord Advocate, at which His Lordship assured them that a Bill would be laid on the table of the House during the Session. This has not been done, and the explanation of Sir George Grey has already been given in our columns, (see *Medical Times*, August 4.) The Report then went on to explain the course pursued by the Council in relation to the views and proceedings of the Council of the College of Surgeons, and in conclusion reminded the members, that the object of a new Incorporation of the General Practitioners arose out of the conduct of the College of Surgeons in the administration of their last Charter, and the impossibility of opening the College of Surgeons to the General Practitioners, urging upon their members the necessity of strenuous exertions during the recess, to impress upon the Government the importance of the attention of Parliament being early called to the grievances of which the General Practitioners had so much reason to complain.

James Self, Esq., briefly moved the adoption of the Report.

J. Bowling, Esq., said: Having witnessed the exertions of the Delegates and the Council, I have great pleasure in seconding the motion; and when we take a retrospect we cannot but be grateful for the efforts which have been made,—efforts which but for extraneous causes, must, ere now, have led to a satisfactory result. But, Sir, I do not despair. I was one of the first to suggest an application to the College of Surgeons either to apply for an additional Charter, or that they should restore us to that position in the College to which we were entitled. In this, however, we have been disappointed; and, under these circumstances, we have no resource left us, but to place ourselves in opposition to the College of Surgeons. No one but must feel that we have been degraded from our rank into the position of Licentiates, and thus to hold the candle to young men who are elected into that College by favouritism. Forty years ago I passed that College, paying a large fee at the time, and a subscription of a guinea a year; and yet now I am put below men who had been apprenticed to persons of my own standing. But one thing is more mortifying to me than all besides, namely, that those are allowed to supersede us, many of whom have committed some of the grossest blunders ever committed in surgery. We have no wish to encroach. It has been said that the College contains the best Museum and the best Library in the world; and yet, what has the Council done? They have disgusted every one in the Profession, except their own *protegès*, some of whom have been compelled to go out of the country for misdeeds in their Profession. Now, the object of the Charter was to secure a constituency for election to the Council; but how could men in Jersey, or elsewhere, form a constituency? And so the kindness of Her Majesty in granting the Charter has been countervailed. It is lamentable when we see the influence exerted on Her Majesty's Government by the Council of the College of Surgeons, and hardly to be borne that these men should have such power as to prevent the proceedings which Ministers intended; and yet it is quite plain that they have done this over and over again. It is notorious, putting the claims of the Profession quite out of the question, that the welfare of Her Majesty's subjects requires that something should be done for the regulation of the Profession. To show what is the exact position of the people in this matter, in the last examination at the College a member was compelled to undergo a second examination before he could be allowed to practise in the Navy. Now, if the examination for membership is so bad, that a Licentiate cannot attend a sailor, I should like to know how he is competent to attend any of Her Majesty's subjects. (Hear, hear.) Our only plan is "Agitate! Agitate! Agitate!"—if we do this, I think we shall, at any rate, get some redress, and that we shall thus contribute to the welfare of the Profession and the public at large.

The motion was then put and carried.

The second resolution was moved by Thomas Martin, Esq., of Reigate, and seconded by — Self, Esq., and was as follows:—

"That this meeting declare their surprise and disappointment, that, after all the discussions and negotiations which have taken place, and the ample evidence that has been afforded, the Government should not, upon its own responsibility, have brought in a Bill, during the recent session of Parliament for the efficient education and regulation of practice of the Medical Profession."

Carried unanimously.

J. Propert, Esq., moved—

"That the delay of Medical legislation has been productive of the most grievous evils, both to the public and the Profession, inasmuch as a large body of imperfectly-educated Practitioners have commenced practice, presuming upon the amnesty which any future legislative measure would necessarily afford them."

This resolution was seconded by James Clayton, Esq. Mr. Self, in support of the resolution, stated, that in a record which he had kept of the Medical Profession in his district, he had found that there were 330 medical men, of whom 72 were unqualified, and of the latter number one-half were without a tittle of qualification, and within the last twelve month he had to add ten more to this list; thus showing the necessity of better regulation for the Profession.

This motion having been carried,

Robert Tanner, Esq., moved, and George Robins, Esq., seconded:—

"That this meeting cordially approve of the principle enunciated in the letter of the Council of the Institute to Mr. Guthrie, in which they reiterate the original object of the National Association, to seek for a new incorporation of the General Practitioners, in default of obtaining for the members full admission to the privileges of the College of Surgeons."

Carried.

The fifth resolution was moved by Richard Wallace, Esq., and was as follows:—

"That this meeting cannot too strongly urge upon their medical brethren the necessity of united action; and they recommend that the Council of the Institute do forthwith convene a general Conference of Delegates from the various Associations that have been established for the purpose of effecting a reform of the laws governing the Medical Institutions of the Kingdom, for the special purpose of securing as extensive a union of sentiment and action as possible upon the main principles of Medical legislation;"

which having been seconded by — Nicholson, Esq., Dr. Burnett rose to support it, and said: The origin of this Institute was from the annoyance felt among members of the Profession at not being allowed to take a part in the legislation of their own College. But I always held that this was only a partial view of the question after all; because the great object is, that the whole Profession should be put on a proper foundation. We are the creatures—the abortions of the College, and they have made any use of us they pleased. I consider that if we have any claim to take rank as a nation, it is that we hold the high attributes,—justice, truth, and mercy; and when we allow men—any men—to have an influence over our Ministers, we, as a people, are in a state not to be envied; we may, indeed, have a free-trade in corn; but Ministers must beware, or by-and-bye, we shall also have a free-trade in Ministers. I propose that we should do nothing precipitately; I am determined to carry out the purpose for which I joined this Institute, and it matters little to me to how few or to how many I speak; but we have everything in our power, simply because we have on our side truth and justice. (Hear, hear.) I have felt much sympathy with those who have met together to endeavour to remedy the grievance of the Union Surgeons, but cannot help feeling that they are not attacking the disease at its root so long as this great evil remains untouched. I therefore propose that we take the opinion of the bodies specified in the Resolution, and after that, if we fail in gaining our object, then several methods are open to us. As freemen of this country, we can go before the Queen. It may be said, "This is all very well, but after all, she must refer the matter back to her Ministers." But that Minister will be a bold man who will advise the Queen to refuse us justice. Instead of being depressed, we have considerable reason to feel that the power is in our own hands to obtain what we want, knowing that, in the end, we shall conquer; and, therefore, I hope ever to stand by the cause of justice to the Profession.

This resolution having passed unanimously, G. J. Squibb, Esq., moved, and H. P. Fuller, Esq., seconded,—

"That the election of officers and Council be suspended during the ensuing year."

Before putting the resolution,

The Chairman said: I think this proposal will commend itself to every well-wisher of the Institute. If the bye-law were carried out, we should lose one-third of our original Councillors, and that number would consist of the most active gentlemen among us.—Motion put and carried.

At the conclusion of the business, the Chairman said: I believe the fifth resolution is fraught with much of good to the interests of the Profession. Many of these gentlemen are at variance with us, but I think it is for want of discussion. It remains for us to reconcile discrepancies amongst Medical Reformers, and to meet in conference those bodies who have various ideas on the subject. The question for the Profession is, Will you come and lay claim to all the privileges of the College of Surgeons? and if they will not do this, then the only alternative is an independent Corporation; either they must consent to be degraded as Members of the College of Surgeons, or must seek to make that for themselves which is now denied them. So that the discussion lies in such a small compass, that if we can only get the Profession to meet, it must end in unanimity. We have great reason to complain of the insults offered to the old Members of the College of Surgeons; they (the Council) improperly place themselves above their Members, and create another body over their heads, and hence we, by that proceeding, have been degraded. Surely gentlemen will not sit down quietly under such treatment. (Hear, hear.)

A vote of thanks to the Chairman was then passed, to which that gentleman responded, and the meeting separated.

THE ALLEGED BRIDGNORTH MATRICIDE.

The trial of Mercy Newton, on a charge of murdering, and subsequently attempting to burn the body of her mother, is, perhaps, the most extraordinary case of its kind in the annals of English judicature. The indictment itself, in the abstract, and in the revolting nature of its details, must ever stand prominently amongst the criminal horrors of this country. Analogous cases are, happily, not common amongst us, and it is, therefore, that the breadth and brutality of the allegations, in the instance referred to, give it a fearful conspicuousness in the great calendar of crime. But, in another respect, is this case one of the most anomalous interest; viz., in the seeming inability of the prosecution to obtain a conviction, or the defence an acquittal, of the prisoner. Nine several Coroner's juries were holden at Bridgnorth, on the very spot of the assumed tragedy, with every facility of investigating the minute circumstances of the occurrence, and of determining whether it were the result of accident or of design, and yet not one of these juries could agree! Whether it were that the several members thereof were so blind that they could not distinguish between right and wrong, or so bigotted that they would not admit the difference, it is not our province to determine. The fact of the inconclusiveness is on record; and whether it indicate a want of honesty, or a want of head, on the part of the Bridgnorth jurors, will, perhaps, remain a *quæstio vexata* to the end of the chapter; but it would certainly seem to say very little for the intelligence, or the integrity, of nine times twelve "honest men," that the opportunity of comparing evidence and counter-evidence, did not enable them to say *aye* or *no!* But so it was; and the unhappy woman, after as many escapes for her life as are usually allotted to the feline tribe, was committed by a magistrate's warrant on a charge of murder, which a succession of coroner's juries did not believe to be valid. Parties differing thus widely can, of a verity, not both be right. It would be an interesting metaphysico-legal curiosity to hear the conflicting logicians contending for an inference, by comparing notes with one another. We cannot help thinking that the epithet *ne sutor ultra crepida* would apply equally to either of them.

To have done, however, with Bridgnorth, we must direct the reader's attention to the Shrewsbury Assizes of last March. On the 21st of that month, the prisoner was put upon her trial before Mr. Justice Coltman and an intelligent jury, charged with having murdered her mother in one of nine different ways, the absence of demonstrative proof of her guilt having rendered it expedient to frame the indictment with these several counts. The case was detailed by the prosecuting counsel, Mr. W. Whitmore, with much minuteness and circumstantial precision; numerous witnesses were called, examined, and cross-examined at great length; there was an eloquent and ingenious address from Mr. Huddlestone for the defence; a lucid and deliberate summing up by the learned judge; and the jury, unable at once to come to a verdict, were locked up, so that they might draw their inference at leisure.

Not only in a legal, but in a medical sense, is this trial of significant consequence, and calculated to figure prominently in the forensic literature of this country. It is in this acceptation that we introduce the subject to our readers. The main weight of the trial rests upon two questions, viz.: What was the cause of death? and were the burns found upon the body produced before or after death? The professional evidence might be divided into two kinds—that which was given by the parties who had made an examination of the body itself, and who reported its special appearances; and that which was adduced by other parties who were called upon to give a scientific opinion based upon the reports of the inspectors. The former were Mr. Coley, Mr. Newall, and Mr. Thursfield, of Bridgnorth; the latter, Dr. Wright and Mr. Bolton, respectively Professors of Clinical Medicine and Practical Anatomy in Queen's College, Birmingham. We shall give the substance of their evidence on the two occasions connectedly; this will be a saving of space to our columns, and a preventive of confusion to our readers.

The Bridgnorth medical witnesses were of one opinion as to the appearance of the brain, lungs, and heart, viz., that the two former were excessively congested throughout their substance with black fluid blood, and that the right cavities of the heart were completely engorged with a similar material. The body was burnt from the knees upwards, and chiefly in front. In some places it was black; in others, brown and coriaceous-looking; and in others, merely shrivelled. In no place throughout the body was there a mark or line of redness. There was what appeared to be a vesication at the lower part of one leg, from which about a teaspoonful of fluid was liberated by Mr. Coley, who, however, employed no means to discover the nature of it; thought it might be serum, though there was no redness around the vesication, or any underneath the detached skin. The stomach contained only a little bread and cheese, and beer; there was no poison in it. The lips were burnt; the tongue slightly protruded beyond the teeth; its tip was scorched, and the other part of it was livid from congestion. On the third day after the burning, the tongue was so swollen, that it nearly filled the mouth. In addition to these details in chief, and some minor ones, the witnesses severally gave it as their opinion that the deceased had died from suffocation, and that the burns found upon her were produced after death.

Dr. Wright was next called, and examined by Mr. Whitmore. He stated: I am a Physician practising at Birmingham; am Professor of Clinical Medicine in Queen's College, and Physician to Queen's Hospital, in that town. Have seen many cases of burns, and examined many bodies that have died from burning. Have studied the subject in connexion with pathology. Have studied the subject of asphyxia, and written a prize treatise thereon. Have heard the Medical evidence given this day. Am of opinion therefrom, that the deceased died of suffocation. Entertain this belief from the congested state of the brain and lungs (particularly the latter), the absence of signs of inflammation, and especially from the engorgement of the right side of the heart. There are various ways of producing asphyxia, (which, in effect, is simply the exclusion of atmospheric air from the lungs. Do not believe that an individual could breathe flame. Its admission within the mouth would cause instant spasm of the glottis. Do not believe that where there was consciousness,* and power of movement, an individual could be suffocated by flame, unless completely surrounded by it. The same access of oxygen that will support combustion will support respiration. Carbonic acid,* and carburetted hydrogen, are poisonous gases; they do not destroy life by producing asphyxia, nor do they cause the same amount of congestion as is observed in suffocation. Bleeding from the ear is not an uncommon occurrence in death from asphyxia; it generally happens in hanging, and sometimes in drowning. Have known it occasioned by the falling of a heavy body upon the head. Have never known a human body burnt after death. Believe it could not occur except by accident, or by design for criminal or experimental purposes. Believe in the possibility of a vesicle containing serum being produced by the application of flame to the body within five minutes after death.

* Cross-examined by Mr. Huddlestone: Have never known a blister produced upon a recently dead body. Form my opinion from physiological reasoning. Am inclined to believe that the vesicle said to have been found upon the leg of the deceased, was a *post-mortem* production, because of no appearance of vital burn being near it, no redness around it, and none underneath the separated cuticle. Think, decidedly, that the *post-mortem* appearances indicated death by suffocation. Sudden death from fright or pain would not furnish such appearances. Spasm of the glottis may be a cause of suffocation. In death thus produced, additionally to other appearances, there would probably be frothy mucous in the trachea and bronchi, perhaps congestion of the blood-vessels, and perhaps extravasation.* Have never known vital burning, in a comparatively healthy subject, without a line of redness demarcating between the injured and the uninjured parts. A broader blush of inflammation comes on subsequently, and disappears before the former. Am not able to affirm, from my experience, that a vital burn can occur in a healthy individual without the red line of demarcation. Cannot, on such a subject, reply affirmatively to a negative proposition.

Mr. Bolton was called and examined by Mr. Philimore: Am a practising surgeon at Birmingham, and lecturer on Practical Anatomy in the Queen's College there. Have studied the subject of vital burning, and have seen many cases of it. Have heard the medical evidence to-day, and concur with it, that the deceased died from suffocation. I think no person could die from burning, except under peculiar circumstances, without screaming. It is highly probable, that a flame increasing in intensity would cause a person to scream. Spasm of the glottis would prevent respiration of flame. The swelling of the tongue was no doubt due to congestion of the organ. That congested state would favour decomposition and swelling: if the tongue had been black from charring, decomposition would have been retarded. A person could not be suffocated by flame, unless surrounded by it, or, unless there were some mechanical obstacle to escaping from it. Was of opinion, from the absence of all marks of redness, that the burns were caused after death.

Cross-examined by Mr. Huddlestone: The absence of oxygen would cause suffocation. Believed the burning to have occurred after death. There might be a vital burn without a blister, as when the part was completely charred. Then, the blister, if any had been, was destroyed. Had seen such cases in colliery explosions; but they did not resemble the present one, inasmuch as the bodies were burnt all over. The flattening of the nose might be before or after burning. It would be difficult to flatten a prominent nose by pressure; burning would shrivel it, and it would then become brittle. Had seen a body charred all over, (by colliery explosion,) except a few spots, and in those there were marks of redness.

ALLEGED POISONING BY LOBELIA INFLATA.

CASE OF THOMAS WILSON.

Reported by Dr. PEARSON and Mr. CURTIS.

Was called to attend this lad at a quarter past seven, a.m., of the 16th of April last; found him complaining of pain in the belly, and pain in voiding urine. The history received from the friends was, that he had suffered occasionally, for a considerable time, from constipation, and had frequently complained of what the father described as a coldness of the belly; that for the relief of these he had frequently taken mountain flax, yarrow, and Cayenne pepper. When first seen, his pulse was quick, small, and easily compressed; tongue covered with a white fur; belly tympanitic, but not painful when percussed. Having to go into the country, he was not seen again until half past three, p.m., when, immediately on entering the room, it was evident a rapid change had taken place; his countenance was pale, ghastly, and anxious in the extreme, and bore the appearance of the system having sustained a great shock, such as might result from an accident with severe internal lesion; skin mottled; no pulse at the wrist; the action of the heart very feeble, and its sounds scarcely to be distinguished from each other; breathing extremely laboured, belly still tympanitic; the senses appeared to be dull, but he answered questions. The matters vomited before our visit had an olive colour, and were not unlike the coagulated blood deposited from beef tea; the stools were scanty, and contained membranous shreds in large quantity.

It being now evident that there must be more than ordinary disease to account for the rapidity and character of the symptoms, after examining the parents of the lad for a considerable time, and naming various vegetable, depressing poisons, likely to produce such results, we learned that lobelia inflata had been administered. We prescribed, but the patient died before medicine could be administered.

Post-mortem examination made about forty hours after death:—

General conformation good; of slender make but muscular; belly green from putrefaction—enormously distended; mottled appearance of various parts of the skin, evidently depending upon gravitation of fluids.

The peritoneal surface of the intestines completely covered with lymph in large quantity; the intestines adherent everywhere, but separable by the finger, and presenting a vascular pinkish and slightly granular appearance; the liver of a blackish colour; the gall-bladder moderately filled with inspissated black bile, containing numerous minute needle-shaped crystals.

The internal surface of the stomach greatly inflamed,—inflammation especially recent at the cardiac orifice, also marked and recent at the pyloric orifice.

The great and small intestines more or less inflamed throughout, but very recently in the duodenum and upper part of the jejunum, in which was found a large incipient chronic ulcer. The papillæ of the tongue enlarged; the pharynx and œsophagus congested; several lumbrici found in the intestines and œsophagus; the fæces appeared of ordinary quantity, they were but slightly coloured with bile. The liver slightly congested and sooty in colour, otherwise healthy; the pancreas congested; the lymphatic glands congested; both kidneys congested and watery. The bladder empty; capillary injection at the neck.

On opening the chest, the contents have a nearly healthy appearance; the lungs, however, having a slight pink colour; extensive adhesions are found be-

tween the opposing surfaces of the pleuræ of both sides, evidently the result of old disease, and are mostly situated at the lower lobes, which are much gorged with blood, and contain an accumulation probably of mucus; the pleural surface of the diaphragm congested; the pleuræ conjointly contain about twenty ounces of serum.

The entire surface of the mucous membrane of the larynx and trachea show signs of inflammation old and recent, and extending throughout the bronchi; fibrinous clots are found loose in the larynx. In the course of the anterior raphé of the heart is seen an enormously distended lymphatic vessel; the right vetricle contains a polypus; otherwise healthy. The brain and its membranes greatly congested; no fluid in the ventricles.

REMARKS.

It is our firm conviction, from this case, and from the careful experiments we have made with the drug upon animals, that not only the recent inflammations and congestions had been caused by it; but that the signs of chronic inflammation in the alimentary canal, peritoneum, bronchial tubes, &c., had also been caused by this or some other irritant given at intervals for a considerable period, as recommended by these people.

The Counsel for the defence did not question the poisonous nature of lobelia, but endeavoured to account for the *post-mortem* appearances from natural causes; and in order to do so he took *permanent obstruction* of the bowels, (which never existed,) as his foundation, although I told him it was not present in this case. He framed his questions in such a manner as to lead the Judge and jury to believe, that they referred to Wilson's case;—thus, *might* not *obstruction* cause inflammation of the bowels? *Might* not not this spread to the stomach? *Might* not this spread to the peritoneum and bladder? *Might* not these cause congestion of the lungs and brain? What medical man could undertake to say what such a mass of disease *might not* do. It *might* more reasonably be doubted whether such a mass of *acute* inflammation ever existed in the same subject at the same time; at all events, it could not arise in this case from a state of things which never had any existence. Again, he examined on the poisonous action of opium, though the patient never took any of that drug from us.

UNIVERSITY OF LONDON.

M.B. FIRST EXAMINATION.—PASS EXAMINATION.—1849.

ANATOMY AND PHYSIOLOGY.

Monday, August 6.—Morning, 10, to 1.

Examiners, MR. KIERNAN and Prof. SHARPEY.

1. The frontal and parietal bones being removed, describe the surface comprised between the remaining portion of the margin of the orbit anteriorly, the superior margin of the petrous portion of the temporal bone posteriorly, and the median plane internally; commence the description at the margin of the orbit, and proceed towards the posterior limit, mentioning the portions of bone entering into the formation of the part to be described, the sutures, fissures, and foramina (and the parts occupying them in the fresh state,) in the order in which they occur.

2. Commencing at the integuments on the posterior aspect of the thigh, describe the parts which would be met with in fully exposing the posterior surface of the Abductor Magnus muscle.

3. Commencing the dissection at the integuments, describe the parts brought into view in exposing the Omo-Hyoideus from the point at which it emerges from behind the clavicle to its insertion.

4. Give a brief account of the system of the Vena Portæ, mentioning its condition in the fœtus, the changes which take place after birth, and any points in which it resembles, or differs from, the general venous system:—and, the walls of the abdomen being removed, describe the steps of the dissection required to expose the course of the Splenic Vein, the terminations of the Inferior and Superior Mesenteric Veins, and the trunk of the Portal Vein as far as its entrance into the Liver; mentioning the relations of these veins to other parts.

5. Describe in their relative position the parts brought into view on removing the undermentioned muscles, viz.:—

The Pectoralis Major and Deltoid.
The Glutæus Maximus.
The Trapezius.
The Gastrocnemius, Plantaris and Soleus.

ANATOMY AND PHYSIOLOGY.

Monday, August 6.—Afternoon, 3 to 6.

Examiners, Mr. KIERNAN and Prof. SHARPEY.

1. Describe the hip-joint, giving an account of the acetabulum and of the upper extremity of the femur, of the cartilages, synovial membrane, and ligaments, and of the movements which take place in the joint, mentioning the muscles by which they are severally affected. Compare the shoulder and hip-joints as regards their contruction and movements.

2. Commencing at the skin of the Perineum, give the dissection required to expose as much of the Levator Ani as can be seen in this situation, describing the parts in the order in which they occur.

3. Give the dissection required to display the Flexor and Pronator muscles on the fore-arm; describing, in the order in which they would be exposed, the muscles, fasciæ, ligaments, vessels, and nerves met with in the dissection, which is to be limited below by the wrist.

4. Describe the situation, connexions, form, and structure of the Uterus, Vagina, Fallopian Tubes, and Ovaries, with their vessels and nerves.

5. Give an account of the structure and arrangement of the Choroid Coat and Iris; mentioning briefly the uses assigned to these parts of the organ of vision.

6. Give an account of the structure and chemical composition of Articular Cartilage.

CHEMISTRY.

Tuesday, August 7.—Morning, 10 to 1.

Examiner, Professor BRANDE.

1. *Oxygen*, *hydrogen*, and *nitrogen*, are required *perfectly pure*: describe the modes of so obtaining them, and of testing their purity.

2. State the distinctive chemical characters of *potassa*, *soda*, and *lithia*—and of *baryta* and *strontia*; and how the three former, and the two latter, may be analytically separated.

3. Define the terms *Isomorphism* and *Isomerism* as applied in Chemistry, and give several illustrative instances.

4. What are the usual constituents of the common *fixed oils*, and how are those constituents separated and purified? Give their formulæ.

5. Describe the best modes of preparing *emetic-tartar*, the *oxysulphuret of antimony*, and the *antimonial powder* of the Pharmacopœia, giving their atomic composition, and that of the several *oxides of antimony*.

6. How may *Quinia* be best obtained? what is its composition, and what are its distinctive characters, as opposed to those of *Cinchonia*? State the composition of *Sulphate of Quinia*, and the tests to which you would submit that salt with a view of determining its purity.

MATERIA MEDICA AND PHARMACY.

Tuesday, August 7.—Afternoon, 3 to 6.

Examiner, Dr. PEREIRA.

1. Enumerate the officinal substances commonly termed Narcotics, classifying them in natural-history order. State first their general physiological effects, then their individual peculiarities of operation. Mention their respective therapeutical applications, and the cautions to be adopted in the employment of each. Lastly, give a sketch of the treatment of narcotic poisoning.

2. Give a sketch of the pharmacological history of Arsenious Acid, to include

α. Its manufacture.
β. Its composition and properties (physical and chemical).
γ. Its tests.
δ. Its effects both in medicinal and in poisonous doses.
ε. Its therapeutical uses, the cautions to be observed in its employment, and its dose.
ζ. The mode of preparing, the strength, and the dose of *Liquor Potassæ Arsenitis*, Ph. Lond.
η. The treatment of arsenical poisoning.

3. Give a brief botanical description of *Papaver somniferum*. Describe the method of obtaining Opium; give a sketch of the process for the extraction of Morphia; and describe the physical and chemical properties of this alkaloid.

4. What is the cause of the black line on the gums in poisoning by lead; of the black colour of the stools after the use of chalybeates; and of the slate colour of the skin after the prolonged employment of nitrate of silver?

5. How would you distinguish a pure solution of bicarbonate of magnesia from an extemporaneous solution of sulphate of magnesia and bicarbonate of soda?

BOTANY.

Wednesday, August 8.—Morning 10 to 12.

Examiner, Rev. Professor HENSLOW.

"Questions restricted to the limitations specified by Syllabus for Pass Examination."

1. Define the terms Inferior, Loculicidus, Corolla, Folliculus, Placenta, Spatha.

2. Give such diagnoses of the following Orders as may be sufficient to include our British genera:
Lineæ, Compositæ, Labiatæ, Aroideæ.

3. Give such diagnoses of the following Genera as will include our British species—alluding also to such of the more important or prominent peculiarities in the flower, fruit, and seed, as you may happen to remember:
Helleborus, Apium, Convolvulus, Salix, Carex.

M.B. FIRST EXAMINATION.

FIRST DIVISION.

Lionel Smith Beale, King's College; Thomas James Duthoit, St. Bartholomew's Hospital; Edward Abraham Hancock Head, King's College; Joseph Houlton, Charing-cross Hospital; Robert Coane Roberts Jordan, King's College; John Phillipson Lpngham, University College; George May, King's College; Richard Neale, University College; Wm. Odling, Guy's Hospital; Charles Pardey, King's College; John Sherwood Stocker, Guy's Hospital; Henry Thompson, University College.

SECOND DIVISION.

Nathaniel Philip Betts, University College; Jas. Charles Dickinson, King's College; James Newton Heale, St. Thomas's Hospital, Richard Hunt, Guy's Hospital; James Jones, Royal College of Surgeons of Ireland; John White Keyworth, St. Thomas's Hospital; Harry William Lobb, St. Bartholomew's Hospital; David Henry Monckton, King's College; John Barclay Scriven, University College; John Patrick Smith, Jervis-street Hospital, Dublin; William Palmer Steele, King's College; James Vaux, King's College; George Webster, University College.

SOUTH LONDON MEDICAL SOCIETY.

A Meeting of this Society was held on Thursday night, called by public advertisement and circular, at the Literary and Scientific Institution, Borough-road, for the special discussion of the nature and treatment of cholera. J. Hilton, Esq., in the chair.

Peculiar interest appeared to have been awakened by the announcement, resulting, as it did, in an overflowing meeting of gentlemen; but so far either as the diagnosis, the nature, or the treatment of cholera was concerned, we cannot say that much benefit is likely to arise from it, excepting in so far as the discussion may incite to more diligent inquiry. Nearly three hours were occupied in a most animated discussion, and still *there is no specific for cholera*. The methods of treatment stated as having been adopted,—whether opium, calomel, the saline or saline injections, and many others,—all these had been partially beneficial, but in the majority of instances without success; indeed, one speaker gave it as his experience, that "no treatment" was the best. Then the *vexata questio* came up, as to the contagiousness or non-contagiousness of this mysterious disease, and "the House" was pretty equally divided, but somewhat agreed as to locality favouring other predisposing causes; though even this idea was attacked. To sum up in few words, we must still record, that the Cholera continues to baffle science and the curative art, and lays a fearful responsibility on those who are constituted for the especial purpose of guarding the public against noxious influences. One thing, at least, was certain, that, in multitudes of instances, to neglect of diarrhœa and premonitory symptoms, and sanitary precautions, was to be attributed the fatality of the disease. The speakers were, besides the Chairman, Messrs. James Hicks, P. J. Murphy, the Hon. Secretary, — Wright, Waterworth, Hunter Lane, Hawkins, Dr. Murphy, Dr. Barlow, Dr. G. O. Rees, Mr. B. Evans, Dr. Crisp, Mr. Dendy, and Mr. Taylor. At the conclusion of the discussion an adjournment was moved, seconded, and carried, to the 30th of August, in the hope that by that time, either larger experience might lead to something more satisfac-

tory, or that an abatement of the disease might allow time to those of the Profession who have been so deeply engaged, to study more deeply the characteristics of the disease and the treatment to which it might be said most to succumb.

MEDICAL NEWS.

APOTHECARIES' HALL.—Names of gentlemen who passed their examination in the science and practice of medicine, and received Certificates to practise, on Thursday, August 9, 1849:—John Langford, St. Leonard's-on-Sea; William Martin Hatfield, Chilham, Kent; Louis Parnell; John Newton Coffin, Devonport; James Rhodes, Manchester.

ROYAL COLLEGE OF SURGEONS.—The following gentlemen, having undergone the necessary examinations for the diploma, were admitted members of the College at the meeting of the Court of Examiners, on the 10th inst.—Messrs. Charles Henry Payne, Uphill, near Bristol; Archibald Prentice Childs, Bungay, Suffolk; John Parker, Chester; Robert Jones, Conway, Carnarvonshire; William Henry Peacey, Tewkesbury, Gloucestershire; Frederick William Armstrong Rawlins, Congleton, Cheshire; Samuel John Tracey, St. Bartholomew's Hospital; Richard Symes, Bridgewater; James Tilby, United States; Samuel Reeves, Plymouth; William Holman, Plymouth; Walter Monday, Olveston, Gloucestershire; and Bernard Chapman Dolman, Melbourne, Dorsetshire. Admitted on the 13th inst.:—Messrs. Richard Close, Dublin; Edward John Daniel, Archway-road, Highgate; Edward Snell, Clare, Suffolk; Robert Harrison Wilson, Howdon Pans, near Manchester; George Elin, Regent's Park Thomas Wynne Williams, Denbigh, North Wales; Augustine Ernest Fitzgerald, Dublin; and Benjamin Alfred Robinson, London. At the same meeting of the Court, Mr. Charles Paget Mingaye passed his examination as a naval surgeon. This gentleman had previously been admitted a member of the College, his diploma bearing date May 30, 1845. The following gentlemen were admitted members on the 15th inst.:—Messrs. Cecil Crandell, Royal Navy; Basil Egaton, Birmingham; William Weaver Jones, Cleobury Mortimer, Salop; George Smith, Stroud, Gloucestershire; Thomas Collyns Blanchard, Southampton; Edward Rutley Ray, Milton, near Sittingbourne; Thomas Peregrine James, Abergavenny, Monmouthshire; Thos. Wallscourt Blake Greaves, Tuam, Galway; James Breach, Bradfield, Berkshire; Henry Benjamin Lillie, Colchester; Richard Lee, Thames, Oxfordshire; and William Strong Browne, Camberwell.

THE COLLEGE FELLOWSHIP.—The following gentlemen, all members of the College, with one exception, having undergone the necessary examinations, were admitted "Fellows" of the Royal College of Surgeons, at the meeting of the Council on the 16th inst.:—Messrs. Samuel Allen Bindley, Birmingham, diploma from the College dated ——; Peter Ladwick Burchell, Kingsland-road, July 5, 1839; Edward Dennis Hacon, Hackney, July 3, 1840; Edward Law Hussey, Oxford, February 7, 1845; Henry Thomas Leigh, Turnham-green, Middlesex, February 13, 1829; Thomas Littleton, Saltash, Cornwall, May 7, 1847; John Morgan, Albion-place, Hyde-park-square, April 30, 1841; Edward Palmer, Westminster; George Hill Smith, Stevenage, Hertfordshire, November 17, 1837; and Frederick Wildboor, Ealing, Middlesex, formerly House Surgeon of the Westminster Hospital, April 7, 1843.

APPOINTMENT to the Chair of Materia Medica, Queen's College, Cork, Dr. Alexander Fleming, of Minto-street, Edinburgh.

DENTIST TO PRINCE ALBERT.—In justice to Mr. Saunders, who, we have the means of knowing, is the only Dentist employed by His Royal Highness, we think it right to re-state in this place what was officially announced in an Advertisement by Lord Abercorn in our Journal of last week, that the appointment given by inadvertence to Mr. Robinson, of Gower-street, has been cancelled.

CAMBRIDGE-HOUSE, Aug. 4.—The Duke of Cambridge has been pleased to appoint Edward Henry Sieve King, Esq., M.D., Member of the Royal College of Physicians, to be one of His Royal Highness's Physicians.

WAR OFFICE, Aug 4.—67th Foot—Acting Assist.-Surg. John Duff to be Assist.-Surg., vice Blatherwick appointed to the staff. Hospital Staff—Staff Assist.-Surg. Thomas Rose Dyce to be Staff-Surg. of the Second Class, vice Home promoted Assist.-Surg. Thomas Blatherwick, from the 67th Foot, to be Staff-Assist.-Surg., vice Dyce, promoted. Memorandum—The following appointments, inserted in the *Gazette* of the 13th of July, 1849, have been cancelled:—Hospital Staff—Assist. Surg. Henry Franklin, from the Third Light Dragoons, to be Staff-Surg. of the Second Class, vice Home promoted; 3rd Light Dragoons—Assist. Surg. Vere Webb, from the 10th Foot, to be Assist. Surg., vice Franklin promoted on the Staff; 10th Foot—Staff-Assist.-Surg. James Lewis Holloway to be Assist.-Surg., vice Webb appointed to the 3rd Light Dragoons. Hospital Staff—Acting-Assist. Surg. John Duff, M.D., to be Staff Assist. Surg. vice Holloway appointed to the 10th Foot. The Christian names of Ensign Furnell, of the 3rd West India Regiment, are "Paul Cudmore."

OFFICE OF ORDNANCE, July 31.—Ordnance Medical Department—Surgeon William Richardson, M.D., to be Senior Surgeon, vice Fogo retired; Assist.-Surg. William Alston Dassauville, M.D., to be Surgeon, vice Richardson.

THE COLLEGE LIBRARY.—It may save many of our readers some trouble by our informing them that the Library of the Royal College of Surgeons will be closed on the 24th inst., and re-open on the 25th of September, after which the hours of admission will be from 12 till 6, instead of 10 till 4, as heretofore. This alteration has been conceded by the Council to some gentlemen signing a memorial to keep the library open till a later hour.

OBITUARY.—On the 9th ult., at Madeira, in the 34th year of his age, Dr. Gilham, most deservedly lamented and respected. His skill elevated him to a high position in his profession, to which he was an ornament. Madeira has sustained a loss that will be long felt; in fact, it is looked on as a general calamity. His remains were attended by a numerous company of Portuguese, English, and a great number of poor: to the latter he was very kind in giving his professional advice.—At Edinburgh, 23rd ult., Dr. William Robertson, late Surgeon 12th Regiment of Foot.—At Paisley, 2nd inst., John Finlay, M.D., of Glasgow.—On the 30th ult., at his residence, in Bedford-square, John Scott, Esq., M.D., aged 66.—On the 4th inst., at his residence, in Wimpole-street, Sir Charles Scudamore, in the 70th year of his age.—On the 10th inst., at his house, No. 41, Jermyn-street, after a few hours' illness, Henry Burton, M.D., Senior Physician of St. Thomas's Hospital.—On the 9th inst., after a short illness, Mr. William Munro, formerly of Dingwall, N.B., and for several years the faithful assistant of Mr. Angus Kennedy, Surgeon, Stratford, Essex.—On Saturday, the 11th inst., at Henley-on-Thames, aged 77, John Henry Judson, Esq., 47 years a Medical Practitioner at Ware, Herts.—At Hong-Kong, 11th April, on board of H.M.S. Alligator, William Henderson, Assistant-Surgeon, Royal Navy, eldest son of William Henderson, Esq., Rosehall, Newington.

THE CHOLERA.—The reports from the provinces during the past week in reference to the cholera have, upon the whole, been favourable. In many towns the disease is on the decline, while in some few it is either stationary, or has exhibited a tendency to increase. This has been the case at Bristol and Salisbury; the deaths, however, have not been so large in proportion to the attacks as in the week preceding. Cholera is spreading through some of the provincial towns in France. It has also appeared in Spain, where the heat has been very intense. The deaths in London during the week ending Saturday, August 11, were 1909. The mortality is somewhat less than it was in the previous week. The deaths from all causes in the last six weeks were 1070, 1369, 1741, 1931, 1967, and 909; of which 393, 680, 1002, 1173, 1308, and 1185, were by diseases of the zymotic class. Small-pox, scarlatina, and hooping-cough are comparatively quiescent; typhus is more fatal than it was. The excess of 901 deaths over the average is due to diarrhœa and cholera, which were fatal to 173 and 823 persons. The deaths from cholera during the last six weeks were 152, 339, 678, 783, 926, and 823. The decrease is gratifying; but it is right to observe that the improvement is chiefly confined to West London, Poplar, St. George (Southwark), Newington, Camberwell, and Lambeth. The deaths from cholera in the two last weeks were 29 and 48 in Wandsworth; 9 and 21 in Pancras; 4 and 14 in Islington; 3 and 10 in London City; 16 and 35 in Bethnal Green; 15 and 35 in St. Giles. The deaths from all causes on the north side of the Thames (1118) were 89 more than the deaths (1029) of the previous week. The parishes which have not yet been visited must be on their guard. Those in which the epidemic has partially subsided should redouble their precautions. The epidemic of 1832 broke out in three successive eruptions; the first commencing in February, was at its maximum in April and subsided; the second rose rapidly from June to July, and sunk again down to the second week of August; its course was very much like that pursued by the present epidemic. The deaths returned by the parish clerks in the three weeks from July 17 to August 7, in 1832, were 968, 793, 661; which, allowing for the defects in their returns, and for increase of population, are equivalent to 2323, 1903, 1586, or 5812 deaths in 1849, when the deaths registered in the corresponding weeks were 1931, 1967, 1909, or 5087 in the three weeks July 21 to August 11. A third eruption in 1832 broke out at the end of August, and extended to the first weeks of September; a fourth in 1833. It is satisfactory to find that the deaths of 819 out of the 823 persons who died last week of cholera are certified. They were seen by qualified medical attendants. But it is to be feared that the advice was not obtained in time. The accounts of the sudden stoppage of the epidemic by prompt medical treatment, and the house-to-house visitation, are perhaps over-coloured. But a mortality as high now as in 1832 should not take place: it may be prevented by improvements in the treatment, by arresting the premonitory symptoms, by still earlier attention to the general health. Medical men are called when the people are dying; but it is then too late. If the families of the middle and higher classes were seen at intervals during the epidemic by their medical attendants, and a corps of medical officers employed by the guardians to visit the poor at short intervals, the present epidemic might very probably be cut short, and a third eruption be averted. The precise locality in which almost every victim of cholera lived is given in the present return under each district; would it not be practicable for the authorities to have all these and the neighbouring localities inspected? If this were done, and proper precautions taken, the tragedies of Albion-terrace, Wandsworth-road, where seventeen persons died in two weeks in ten houses could scarcely recur. The particulars of the seventeen deaths will be found in the notes under Wandsworth and Clapham. Another case appeared this week in the note under Hampstead. In the house No. 6, Albion-terrace, five deaths had been registered—a Wesleyan minister's wife, aged 59; his mother, 90; a widow, 49; and two old servants. This is all we learn from the Clapham Registrar. The Registrar of Hampstead adds, that during the week, an aged man came with a friend to Hampstead for change of air,—breakfasted, dined, went to London to transact business at the Bank of England, and after his return seemed "pretty well." At six o'clock the next morning he felt ill, and had medical advice, but died in eight hours. This old minister was apparently the last of his family, for he had seen his mother, wife, and servants die before him in Albion-terrace, and could not fly from the poison which he carried in his breast. Such scenes of desolation could scarcely happen without great negligence on the part of the people themselves and on the part of the authorities.

MORTALITY TABLE,

(Metropolis.)

For the Week ending Saturday, Aug. 11, 1849.

Causes of Death.	Total.	Average of Five Summers.
All Causes	1909	1008
Specified Causes	1903	1005
Zymotic (or Epidemic, Endemic, and Contagious) Diseases	1182	302
Sporadic Diseases:		
Dropsy, Cancer and other Diseases of uncertain or variable seat	42	44
Tubercular Diseases	175	190
Diseases of the brain, Spinal Marrow, Nerves, and Senses	118	119
Diseases of the Heart and Blood-vessels	26	29
Diseases of the Lungs, and of the other Organs of Respiration ..	102	81
Diseases of the Stomach, Liver, and other Organs of Digestion ...	74	76
Diseases of the Kidneys, &c.	15	11
Childbirth, Diseases of the Uterus, &c.	4	7
Rheumatism, Diseases of the Bones, Joints, &c.	9	7
Diseases of the Skin, Cellular Tissue, &c.	—	2
Malformations	6	3
Premature Birth and Debility ...	32	23
Atrophy	38	25
Age	39	43
Sudden	8	8
Violence, Privation, Cold, and Intemperance	33	36
Causes not Specified	6	3

The following is the number of Deaths occurring from some of the more important special causes:—

Apoplexy	17	Heart	22	Phthisis	127
Bronchitis ...	34	Hooping-cough	45	Pneumonia ...	45
Cholera.........	823	Hydrocephalus	24	Scarlatina	21
Childbirth	2	Influenza	...	Small-pox	4
Convulsions...	43	Liver	17	Stomach	12
Diarrhœa	173	Lungs	7	Teething	6
Dropsy	12	Measles	21	Typhus	54
Erysipelas ...	10	Paralysis	22	Uterus	3

BIRTHS AND DEATHS.

	Births.	Deaths.	Deaths over Births.
Males	621	918	327
Females	638	961	323
Total......	1259	1909	650

METEOROLOGY OF THE WEEK.

Day.	Mean of Barometer.	Mean of Thermometer. Dry.	Ditto. Dew Point.	Difference between the Mean Temperature of the day and the same day on an average of 7 years.	General Direction of Wind. A.M.	General Direction of Wind. P.M.	Amount of Horizontal Movement of the Air. Miles.	Rain in Inches.	Electricity.*
Sunday	29·799	58·8	47·3	— 2·8	N.E.	E.N.E.	35	0·01	P. and tension weak at 9 p.m.
Monday	29·933	64·4	47·6	+ 2·7	E.N.E.	S.W.	41	0·00	P. and tension strong.
Tuesday......	29·896	67·7	53·5	+ 6·0	S.E.	S.	50	0·00	P. and tension strong till 3 p.m.
Wednesday.	29·741	70·8	60·4	+ 9·2	S.S.E.	S.S.W.	75	0·24	Nothing shown.
Thursday ...	29·574	66·6	60·8	+ 5·2	S.S.W.	S.W.	50	0·08	P. and tension weak.
Friday	29·684	67·4	58·9	— 6·2	S.W.	S.W.	55	0·09	P. and tension variable.
Saturday ...	29·743	65·4	55·6	+ 7·8	S.W.	S.S.W.	85	0·00	P. and tension weak.
Means ...	29·766	66·4	55·1	+ 4·9	S.W.		Sum 436	Sum 0·24	

* In this Column, A stands for Active; N. for Negative; and P. for Positive.

TO CORRESPONDENTS.

Erratum.—In our last Number, in Dr. Routh's paper on "Transfusion of the Blood," 34th line from bottom, for a "free cut," read a "fine cut."

"Mr. Alfred Ebsworth, Bulwell, Notts."—Communication received.

"D. J."—We cannot account for the oversight. Dr. Stevens is about to publish a pamphlet on the Saline Treatment of Cholera. It is now in the press, and will contain the required information.

"Dr. Ryan's" pamphlet shall receive an early notice.

"Chirurgus" informs us that a full account of the treatment of Cholera by Camphor is contained in Dr. Knox's "Inquiry into the Present State of our Knowledge of Cholera."

"Cambria"—We think the surgeon can supply the medicine legally, and is not liable to a fine.

"Dr Fife, Newcastle-on-Tyne." — Communication received.

"Dr. Badeley, Chelmsford."—The request shall be attended to.

"Kappa."—The "Dublin Dissector" is a good work. The "Manual" referred to may also be consulted with advantage

"Mercurius" says, that Astro-Meteorology is a science, and when better understood will afford increasing knowledge of the laws by which epidemics are produced and regulated.

"Justitia."—We decline opening our pages any further to the controversy.

"Dr. Routh, Dorset-square," will see that his request has been attended to

"M. Gonderet, Paris," is thanked for the communications forwarded. In reference to the treatment of intermittents by dry cupping, our correspondent remarks, that M. Bouillaud has lately treated two cases successfully by this means at La Charité, and seven or eight at the Hôpital Necker, which it is his intention to place before the Academy of Medicine.

"Mr. J. Baker, Shirley, Southampton," having had experience in the treatment of Cholera, recommends the following plan:—"Finding fluids of every kind instantly rejected, I pulverized Ammon., Sesquicarb, Camphor, Opium, and Chalk, sufficiently powerful to excoriate the mouth and abrade the delicate membrane of the stomach By these remedies patients have recovered within twelve hours from the first attack, and, in some cases, the symptoms have abated in less than one hour. Infants have been successfully treated in this manner."

"Iago."—(1) We know nothing of the Assurance Office referred to. (2) Yes.

"Mr. N. B. Fisher, Bungay, Suffolk "—The delay has been unavoidable.

"A Subscriber, Portsmouth."—If a letter were addressed to the Author at Worcester, our correspondent would receive better information than we could possibly give him.

"S. J."—The patent Improved Horse-hair Gloves of Messrs. Lawrence, are well manufactured, and are very superior to the ordinary flesh brush. We have no doubt their judicious employment will tend to promote a healthy action of the skin.

"B. H. B" has forwarded a case of scirrhus disease of the os uteri, ending in cancer. The patient was a woman, 36 years of age for two or three years had felt uneasiness at the lower part of the abdomen, which gradually increased. The catamenia appeared regular till she became pregnant. As her pregnancy advanced, the pain became more acute, and it was greatly increased in walking, or on passing urine or fæces. No vaginal examination was at first made, but the patient was ordered a saline mixture with camphor and sp. æth nitr., three or four times a day; an injection of warm water per rectum night and morning, and the recumbent position. A mild sedative, also, to be taken at bed time. Under this treatment she at first appeared to improve, but subsequently the pain at the inferior part of the abdomen returned with increased violence. On making an examination per vaginam, around the cervix uteri were found three large tubercles, the size of walnuts, with several smaller ones, smooth like marbles. The strength of the sedative draught was increased, and, in a short time, the tubercles began to slough. A highly offensive discharge followed, to remedy which injections of warm water, containing chloride of lime and tincture of opium, were ordered three times a day. When the labour occurred, a still born child was expelled by a single violent uterine pain. The placenta followed in ten minutes. From the effects of the disease however, upon the woman's constitution, she only survived one hour after the birth of the child. Our correspondent has forwarded to us his name, which he does not wish published.

"Dr. S. M. Curl" has sent us a case of phthisis and scirrhus, in which the patient quickly recovered under the use of cod liver oil, and syr. ferri. iodidi. The patient was a married female, thirty-six years of age, in whom auscultation and percussion gave evidence of tubercular disease of the lungs. She had also a scirrhus tumour in the left mamma. She was ordered the following mixture:—℞ Sp. ammon. arom. ʒj.; tinct. digitalis. ʒj., ferri. citratis gr. xx.; t. cinch. comp. ʒij.; aq. distill. q.s. ft. mist. ℥iv., cap. coch. ij. med. ter. die. This she continued four days, when the hectic fever abated. The following mixture was then ordered:—℞. ol. jecoris. asil. ʒij ; syr. ferri. iodidi ʒiss.; inf. aurant. et. mucil. acaciæ, q.s. ft mist. ℥viij. cap. coch. j., mag. ter. die. The other mixture to be taken twice a-day, the dose of tinct. of digitalis being gradually increased. Eventually, the mixture containing only the cod liver oil was taken, and the patient in three months appeared in perfect health, and the tumour in the breast had nearly disappeared.

ORIGINAL LECTURES.

LECTURES
ON
OPERATIVE OPHTHALMIC SURGERY.
DELIVERED AT THE CENTRAL LONDON OPHTHALMIC HOSPITAL.

By H. HAYNES WALTON, Esq., F.R.C.S.,
Surgeon to the Hospital, and to the St. Pancras Royal General Dispensary.

LECTURE IV.

Extraction.—Description of the instruments required.—Positions of the patients and the operator.—Details of the operation, with a review of the several proceedings, and a consideration of the means of overcoming difficulties or accidents that may arise.

EXTRACTION.

Gentlemen,—Before operating I prescribe some purgative, and desire it to be taken sufficiently early, that its effects might end not later than the night previous; it would be very improper to allow the necessary quiet of the patient to be disturbed immediately after the operation by the action of medicine.

It is very problematical whether dilating the pupil keeps the iris more out of the course of the knife. At all events no disadvantage arises from the dilatation. The position of the patient, whether sitting or lying, is of little moment if he be quiet: but assuredly one who is restless ought to be on his back.

I divide the cornea in its upper part, preferring the upper section, as it is called, since it combines more advantages than any other. I always stand behind my patient, a superiority of position that cannot be over-estimated when the globe of the eye is the subject of operation. If want of practice, or deficiency of confidence, prevent you from employing the left hand, you will be obliged, when the left eye is to be operated on, to be in front, and, to make a lower section of the cornea, or else, by what appears to me to be a more difficult and uncertain proceeding, perform an upper section by cutting from you. It is remarkable that the left eye more frequently fails after extraction than its fellow. I have no hesitation in attributing the fact to the faulty performance of the operator, arising from the difficulty offered by that eye.

I shall confine myself to a description of my own practice, the principles of which are applicable to any method of corneal section. The instruments I use are two knives;—one triangular, a modification of Beer's; the other narrow and blunt pointed, and called a secondary knife, and a pair of scissors with probe points; and here you see is an improvement of the ever-improving Mr. Weiss. I allude to the eccentric or lever points, giving, it is said, freer motion, better leverage, and more of a drawing cut than the ordinary ones; the larger the scissors, the greater will be those advantages. A double instrument called a curette, one limb being of steel, slightly curved at the point and sharp; the other of silver, and formed into a sort of narrow spoon. A fine hook, when necessary, for withdrawing the cataract.

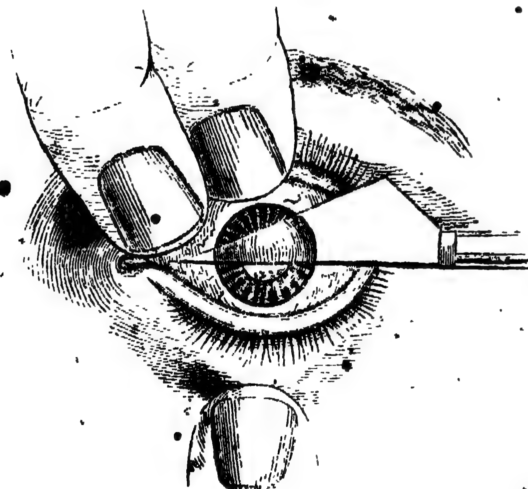
Now each of these requires a particular make and temper, but it would occupy too much time to enter into an individual description, and more unnecessary, since the able maker from whom they are obtained thoroughly understands what is required, and can supply you with fac-similes.

Should a sitting posture be chosen,—it is that I give the preference to,—the head, thrown backwards, should rest against the inclined back of a chair, one over which you should have perfect command (some surgeons may require a stool); the exact height is a matter of choice. I usually so arrange it, that when I am standing nearly erect the eye is on a level with my arm held at a right angle. With a less high chair, the head may rest against the operator's chest. With the patient in a lying posture, I still stand, and, therefore, require him on a high table, or with one of ordinary height; the head and shoulders must be raised by pillows, or some other contrivance. Some surgeons invariably sit to extract. The importance of a proper light is evident, and as I suppose that an operator would choose that which according to the arrangement of the room suits him best, any directions seem unnecessary.

It is customary to bind up the other eye if it have any sight. I object to the practice, because it possesses no advantage, and the formality tends to unnerve the patient.

The operation, well performed, is bloodless.

The first object is to make a cut of the cornea sufficiently large to admit the easy escape of the cataract. Suppose the right eye submitted to us, and everything arranged for commencing. An assistant should gently draw downwards the integuments of the lower lid, taking care that the globe be not pressed on, which may be avoided, by resting the finger employed on the malar bone. Very little retraction will suffice. The operator laying his left hand on the patient's forehead, with the fore-finger elevates, draws forwards the upper lid and locks it under the edge of the orbit; the tip of the finger should be below the tarsus, that it may be applied against the globe to prevent upward motion, while the middle finger is so placed on its inner side as to control any movements in that direction. The fingers should not encroach on the cornea, but be kept away from it as far as is possible.

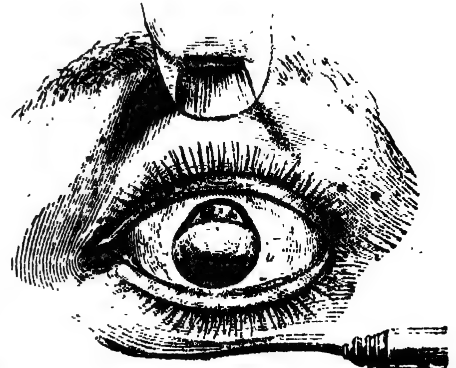


I have supposed these preliminary steps easy of accomplishment, and they would be, were the eye to be directed forwards in the manner desired. It frequently requires much patience, gentleness, and management, to get it in that position in which it may be steadied. The nervousness of the patient quite disqualifies him for regulating its movements. With the globe well fixed, and the lids nicely retracted, troublesome part is overcome, especially if the eye be sunken, or the palpetral fissure small.

The right hand should rest against the side of the face, the thumb and two first fingers unrestrained, and allowed free play for the use of the knife, which should be entered at the central and external part of the cornea, about half a line anterior to the sclerotica, passed rapidly through the anterior chamber, and the point brought out on the inner side, at a spot as nearly as possible opposite to its entrance. It matters not if the external puncture be higher or lower than the centre of the cornea, provided that the counter-puncture correspond to it. As the globe cannot be kept stock still, without an injurious amount of pressure, it will roll a little during the introduction of the knife and its passage through the chamber. Great nicety is required to adapt the hand to the yielding, and without which you cannot make a proper counter-puncture. The remainder of the cut ought to be executed slowly, and with the same continued thrust or push of the knife, taking care so to direct the edge in its entire course that it shall pass at a uniform distance from the sclerotica. When the last portion is divided, a jerk may occur, but ought to be avoided, by proceeding particularly slow. I have found assistance from placing the end of the finger on the back of the nail against the last resisting portion, as a check or support

After the counter puncture, the globe is sufficiently under the operator's control to be made to resume a proper position, should it have rolled too much inwards.

The pressure with the fingers should be lessened as the knife advances, and entirely cease just before it is free; prior to which, also, the assistant had better relax his hold; after it is liberated, the upper lid should be gradually released and the eye closed. Subsequent to a brief repose, the lid should be again raised, but only sufficiently to expose the cornea, the patient told to look towards his feet, that the globe may be directed downwards, the curette introduced beneath the corneal flap, and the capsule lacerated. The cataract is now to be started by pressing on the globe with the finger that raised the lid, (I use its point as a wedge between the globe and the upper part of the orbit), and the curette placed on the outside of the lower lid; the force should be gradually increased till the opening of the lips of the cornea by the bulging of the iris indicates that the cataract has left its position. With a little patience the pupil dilates, and the cataract begins to appear externally, then all pressure should be remitted, for the elasticity of the cornea will suffice to expel it. The operation is now over.



I shall review the various steps I have described.

If the cornea be divided as I have directed, there will be ample room for the cataract to pass out, but in proportion as it is smaller, will there be difficulty to its exit; and when it is under a certain size it cannot escape at all.

A faulty section may arise from entering the knife too much above the transverse axis of the cornea, or too far from the sclerotica, or having made a good entrance, the counter-puncture may be in the wrong place. Again, the cornea may have been admirably transfixed; but, the edge of the knife, instead of being kept parallel with the sclerotica, directed forwards, and made to cut its way out in an improper place. Either of these is equally bad; the most common, and therefore the most to be avoided, is an imperfect counter-puncture. It has been to remove that occurrence, that some ingenious, but worse than useless instruments, have been invented to keep the globe still.

I presume that you have learned, by actual experiment on the dead subject, what sized aperture is required for the easy escape of a lens, and that, having failed in making a proper one for the cataract, you will at once recognise your fault, and, without making fruitless and dangerous attempts at squeezing, resort to the proper expedient, which is, to use the secondary knife till proper space be obtained. This subjects you to a very nice proceeding. When the blade is introduced it must be kept well forwards with the end which is blunt against the cornea, that the iris be not injured. The cut, if possible, should be effected by a succession of outward strokes on the outer part of the cornea.

It is better to let the eye rest a little before resorting to this knife.

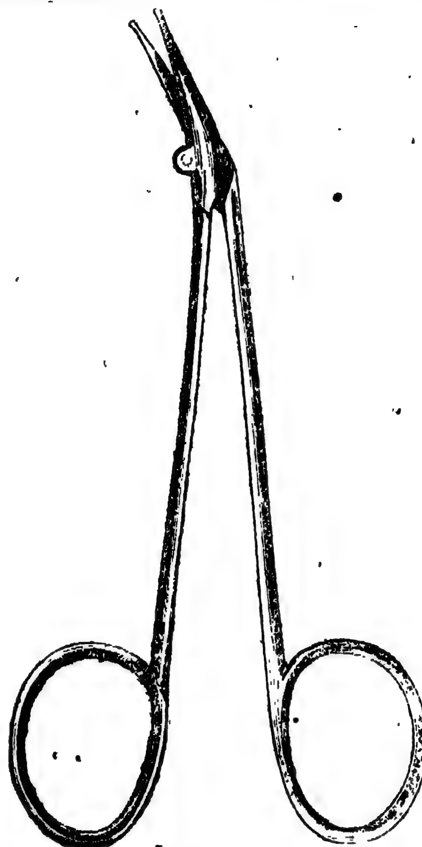
According to my experience, the average of failures in these cases is large, and I attribute it to the cornea being jagged, and the iris bruised and irritated. Some operators use scissors instead of a knife.

As bad as this secondary affair may be, it is still worse to force a cataract through a small aperture, for *a great* essential to success is its easy passage out of the eye.

The iris may get in the way of the knife in the first step of the operation, and produce difficulty, so that it would be impossible not to cut it were you to proceed. This occurrence is mainly attributable either to premature escape of aqueous humour, or from not keeping the knife well-adapted to the cut it is making, or what amounts to the same thing, wriggling or twisting it, and making the edges of the wound to gape, for, with the slightest aperture, out spirts the humour. It must be apparent, that I do not recommend any sawing movement with the knife; I strictly avoid it even when the smallest portion of the cornea remains undivided. With the same continued thrust should every part be severed.

If the aqueous humour escape before the counter puncture be made, withdraw the knife and delay the operation.

If the cornea be nearly divided, and a considerable portion of iris fall on the edge of the knife, withdraw it, and complete the work with the secondary knife, the blade of which must be passed under the remaining tag, and cut out by long strokes in whatever direction you prefer, or find most convenient. If, at any stage after the counter-puncture, a small portion of the iris be in the way, pay no regard to it; a small bit being shaved off matters little, especially if it be the margin of the pupil. If a piece be cut out of the iris, a second or false pupil will be the result; it is better, then, at the time, to divide the separating isthmus with the scissors, and make the two into one. In a few instances, the former accident has happened to me, but the latter never.



It is recommended, by high authority, always to attempt to free an entangled iris by pressing it between the cornea and the knife.

I have seen, under the hands of two eminent oculists, a small bit of the iris fall on the knife's edge; and, although both of those men tell us, in their books, how it may be extricated by pressure, neither attempted it, but proceeded as usual, allowing the iris to take its chance.

The fingers of the operator are so engaged that he cannot well shift them from their occupation to another purpose; and there would be such a want of consent between those of an assistant and his own, that in the majority of instances, if not always, the safer plan is to proceed and inflict a slight wound rather than attempt an extrication. I feel perfectly sure that some of the rules laid down on this head by writers cannot, with safety to the eye, be reduced to practice.

After the aqueous humour has escaped, the upper lid becomes wet, and is not so easily raised. If you wrap a bit of thin linen rag around the finger, the slipperiness will be overcome. The same plan may be found of use in other instances, when the lids are moist or wet from any other cause, lacrymation for instance.

The iris always bleeds when wounded; and the presence of blood beneath the cornea is likely to embarrass the young operator. It is soon absorbed, and need not occasion any anxiety.

The point of the curette introduced, with the concavity upwards, should be applied on the capsule, and then carried in any direction once completely across as far as the pupil will allow. That will suffice if the capsule be transparent; if opaque, and consequently tougher, it should be used more freely, precaution being taken that the pressure do not displace the cataract posteriorly; when withdrawing it the convexity should be upwards. If the point which is on the cataract be made the centre of motion when it is turned, the cornea and iris will escape injury.

If, after sufficient pressure on the globe, the cataract do not move forward, or evince some sign of displacement, and there be no discoverable impediment, you must resort to the hook, introducing it as you should the curette; pass the end behind the iris, and beyond the margin of the cataract, into the posterior surface of which plant its point, and cautiously draw the cataract up. The same practice must be resorted to when, with slight pressure on the globe, the vitreous humour rises up by the side of the cataract; and here even greater care is required, from the vitreous humour being unhealthy and preternaturally fluid. Rough fingering would cause much of it to be lost. If, in attempting to use the hook, the cataract gets displaced, still try to secure it, if it be fairly in view. Very recently I had a case with the vitreous humour so fluid (and I may here remark that it is not always possible to know this beforehand, for in this instance the globe was neither boggy nor unnaturally hard), that, with slight pressure, it escaped, leaving the cataract unmoved, and which, when touched, floated immediately in the vitreous humour. By patience and manœuvre, I got it out. Had it passed out of sight, or not been caught after a moderate trial, I should have left it alone. I have somewhere read of an operator *fishing* for three quarters of an hour for a sunken cataract, and at last *harpooning* it.

But the more common case is, that the cataract attempts to escape, and is prevented by the external opening not being sufficiently ample, by adhesions of the iris, or an unbroken capsule. I have told you how to obviate the first. Whenever the cataract passes partly through the pupil, and stops at the lips of the cornea, you may be sure that more room is required. If adhesions be the cause, the iris will bulge forwards, the cataract not being able to pass through the pupil because it cannot sufficiently dilate. If you were ignorant of adhesion before operation,—a most inexcusable omission, you may be puzzled to discover its exact locality. When found, it should be divided with the scissors. The correct course is to ascertain the point beforehand, and to divide any adhesions prior to the curette being used.

An imperfectly lacerated capsule is recognised by the pupil expanding, the iris passing forwards, and the cataract not escaping. The curette must be more effectually applied.

While the cataract is emerging from the cornea, it may fall in several pieces; some of which may remain between the iris and the cornea, or the external or soft parts may not escape with the harder portion. What is to be done in such cases—the latter of which is very common, and often to be attributed to an insufficient outlet? Attempt with the spoon of the curette to remove any hard fragments, except they be in the pupil, when interference is wrong. The same rule applies to the soft matter, with the exception, that should merely a little of it remain, do not subject the eye to further disturbance unless the adaptation of the corneal flap be interfered with; soft lenticular matter is soon absorbed.

The iris does not always recover itself after the cataract has passed the pupil, but protrudes and is unmanageable. If after gently touching the globes through the closed lids, and waiting a little, it fail to assume its wonted position, try to return it with the blunt end of the curette, and again rub the globe; should this also be useless, Mr. Tyrrell advises a small portion of the vitreous humour to be evacuated. I have never had to resort to such an expedient, nor ever would.

The most troublesome cases of prolapsed iris are those complicated with the presence of the hyaloid

membrane in the wound. When that membrane alone protrudes, make an attempt to return it, and should that fail, as a last resource cut off with scissors as much as hangs out. I should not meddle with the iris; from what I have seen I should prefer leaving it alone; I think that the cases in which it is cut are not ultimately so favourable as those that are left untouched.

Whenever the vitreous humour hangs out, and keeps the lips of the cornea open, you may be sure that there is hyaloid membrane along with it. The flap of the cornea requires to be looked to; it may turn downwards, or, losing its convexity, fall in; in either case union could not be effected; the use of the curette will remedy these conditions. I am sure that when the vitreous humour is unnaturally fluid, no operative skill can prevent its partial escape, and eyes do well in which a small quantity of it has been lost, *i. e.*, they recover vision. I have not instituted any inquiry of their equal success with those in which all has been retained. That a small loss of it cannot be beneficial, as some have reported, I feel certain. An amaurotic state does occasionally accompany the escape of any quantity, as I can testify from my personal knowledge. As a principle, endeavour to prevent it. When once it has commenced to run out, very slight circumstances will occasion a further discharge, and I have mentioned the disadvantage of the hyaloid membrane accompanying it, a circumstance always to be dreaded. Authors undertake to tell the effect that will be produced on vision according to the amount lost, and speak of a third, or a fourth, or a fifth. All this is mere conjecture; how is one to decide on the quantity?

But the vitreous humour may be actually forced out by the operator's fingers at some step of the operation. Pressure enough to control or direct the motions of the globe, or displace a cataract with a healthy vitreous humour, is never injurious, but beyond that, danger is at hand. It is a common accident with beginners, for the cataract and some of the vitreous humour to burst out directly that the cornea is divided. Spasmodic action of the muscles of the globe generally bears the blame. I have heard of the point of a knife being broken while passing through the cornea by muscular action! If, as I have shown, we do not always know what state of vitreous humour we are to encounter, whether healthy or not, we must never be off our guard, but ever careful and cautious.

I have deferred the few following remarks till after describing the operation, thinking that they will be better appreciated.

Subsequent to the middle period of life, the cornea is prone to become flattened and smaller, the anterior chamber consequently reduced, and should there be less space than the knife could be used in, without wounding the iris, extraction should not be attempted.

The same rule is, of course, applicable with diminished capacity of the anterior chamber from a bulging iris, the cause of which is posterior pressure. Entire adhesion of the pupil to the capsule of the lens, likewise forbids extraction, but partial adhesion can be overcome. Now, out of this a very practical question arises, With what amount or extent of adhesion may extraction be undertaken? Theoretically, it is most difficult to give an answer. I can only say, that whenever extensive use of the scissors would be required for the liberation of the iris, a successful result could scarcely be expected. The most fortunate termination would probably be, a closure of the pupil from consequent inflammation, and a chance, at some future period, of an artificial one being made.

Adhesion of the iris to the cornea may forbid extraction, either from its extent, or the part of iris implicated; but, if merely an inconsiderable marginal portion were adherent, I should not hesitate to divide it during the section of the cornea, provided I could so direct the course of the knife that the rest of the iris would escape injury. But there may be a previous operation for the purpose. A small clear cut of the iris with a keen-edged knife during the section of the cornea is, in after consequences, a much less objectionable measure than is supposed; indeed, it is scarcely comparable with the more injurious use of the scissors, the only admissible instrument for the division of adhesions, in the flabby and unmanageable state in which the iris is found after the escape of the aqueous humour.

[The wood-cuts which illustrate Mr. Walton's lectures are original sketches by Dr. Westmacott, of King's College.—Ed. *Medical Times.*]

ORIGINAL CONTRIBUTIONS.

SCARLATINA, SUCCESSFULLY TREATED BY HOT-WATER APPLICATIONS.

By F. A. BULLEY, Esq., F.R.C.S.,
Surgeon to the Royal Berkshire Hospital, Reading.

Mr. Thomas S., a respectable farmer, residing near this town, of ruddy complexion, tanned and freckled by much exposure to the sun, and who had, generally speaking, enjoyed the best of health, had complained for several days before I first visited him of a swelling and soreness of the throat, which had occasioned him great uneasiness. For three or four days he had been unable to swallow anything, even of the most liquid kind, without difficulty, with an entire loss of appetite, feeling very heavy and sleepy, and complaining of a dull, aching, overpowering sensation in his head. These symptoms had continued to increase until Tuesday, July 10, when his family becoming alarmed about him, thought it necessary that he should undergo some medical treatment, especially as on the previous evening they had observed a peculiar rash, making its appearance on different parts of his body.

On examination, the following appearances presented themselves, which, taken together, left me little reason to doubt that the disease under which he was suffering was scarlatina of no very gentle nature, and would require no little activity in the treatment to prevent its lapsing into its most malignant type.

On examining the throat, I found a swelling on each side, externally, perceptible to the sight, and exceedingly painful on pressure; internally the tonsils were so greatly enlarged, as by their approximation almost entirely to prevent the passage of food between them, and were of that peculiar dark purply colour, characteristic of the gangrenous tendency which sometimes accompanies this disease in its severer attacks; this discolouration was also observable on the return of the palate and uvula, which latter was considerably enlarged, and the whole of the inflamed surfaces were covered with a viscid and adhesive mucus; there was, however, no particular ulceration anywhere, except just in the centre of the right tonsil, where there was a slight superficial abrasion of the surface; the skin over the whole body was dry and harsh, and had a burning feel in every part, but especially over the surface of the abdomen, where the heat was most intense; there was not the slightest appearance of moisture on any part of the body.

In different parts of the body, but more particularly over the chest and abdomen, the characteristic eruption of scarlatina had completely displayed itself; over the legs and arms it was rather faint and in patches, whereas upon the trunk it was continuous and of the bright red colour distinctive of the nature of the disease.

His tongue was fissured, parched, and red at the edges, with great thirst and constant longing for small beer. Pulse 120, moderately strong, with a palpitating struggling action of the heart; he complained of great pain in his head, and the feeling of constriction in his throat was such that he thought himself to be in imminent danger of suffocation.

For this apparently unfavourable combination of symptoms, the following simple, but active and as it turned out, successful treatment was adopted. The patient was placed upon a bed, on which, the sheets having been removed, two blankets had been laid, then a flannel pad, composed of four thicknesses of coarse household flannel, 16 inches long by 10 inches wide, stitched round the margin to keep it together, and wrung out of hot water till almost dry, was laid as hot as he could bear it upon the pit of the stomach and over the region of the heart; and while it was still warm, the blankets, one by one, were carefully folded round his body, so as to completely confine the perspiration and heat, which might be generated by this process; at the same time, another pad of two thicknesses only of the coarse flannel, wrung out of boiling vinegar and water, was placed round the throat for the relief of the local inflammation. After he had remained enveloped in the wrapping a little more than half an hour, during which time the febrile excitement had been somewhat increasing, he burst into a profuse and general perspiration, in which he was allowed to remain for two or three hours longer, with an evident abatement of the symptoms, when the blankets were carefully removed, and the flannel pad withdrawn; after this, he had some refreshing sleep, and but little return of the burning fever; he was now ordered to take half a drachm of Dr. Stevens's saline powder in a mixture every four hours, and to use the following gargle to the throat:—

℞ Armenian bole; burnt alum powdered, aa. gr. 40; brown sugar, gr. 60; water, ℥viij. Mix.

July 11th, next day.—Has passed a tolerably comfortable night; the inflammation of the throat is greatly diminished, and he has lost the agonizing pain in swallowing, which he can now do with comparative ease; skin uniformly moist, and the laborious action of the heart has in a great measure subsided. The eruption continues, but is not so vivid as yesterday; to have strong beef-tea strongly flavoured with salt. The body was sponged in the morning with tepid vinegar and water; and in the evening, the fever having slightly returned, the hot padding was repeated, but not for so long a time as yesterday, as the perspiration was more easily induced, and the fever was readily subdued. After this period he had no further return of the fever.

12th.—The swelling of the throat has entirely disappeared, as well as the redness, and he now swallows without pain. No return of the fever; the eruption is beginning to decline; a gentle moisture, assisted by warm clothing, continues on the skin; his natural appetite for food is returning.

14th.—He sat up in his bed-room to-day for the first time, feeling, however, somewhat weak; the efflorescence of the skin has subsided, and the cuticle is beginning to peel off from different parts of the body; his appetite and power of swallowing has so far returned, that he is able to eat a mutton-chop with a relish, and without pain.

16th.—Although extremely weak, he appears to have lost all traces of the fever; his appetite has completely returned, and he is gradually gaining strength, so much so, that I told him he might go down stairs for the first time to-morrow. The saline mixture which he has taken every four hours, up to the present time, is to be discontinued, and a mixture composed of the infusion of chyraitta, with cascarilla, ordered in its stead. A day or two after this date, seven days from the first appearance of the eruption, I found that he was out of doors somewhere about his farm, but I understood that he was fast recovering his strength.

Observations.—I have related this case with a view to illustrate a peculiar mode of treatment, which I have adopted and found successful, not only in this particular kind of fever, but in every other instance of either active or passive febrile disturbance which has within the last few years come under my observation.

It would be beyond the intention of this communication to speculate upon the pathological origin of fever; but it appears essentially to consist of a series of conservative efforts of nature to relieve the system of some pervading noxious influence—some animal poison abiding in the blood, which, if unassisted or ineffectual, at least are followed by an alteration of that fluid from its natural healthy composition, to such an extent, as to render it incapable of further maintaining the healthy vital functions.

It must be obvious to every one who has paid

any considerable attention to this subject, that, in almost every kind of fever, of whatsoever type or nature it may be, the skin during the time of its continuance has lost its natural functions, its healthy depurating office appears to be suspended or at any rate greatly disturbed; and this may almost be taken for granted, when we reflect upon the great number of diaphoretic remedies with which the Pharmacopœa abounds, and which, under this impression, are constantly called into operation in the treatment of febrile diseases.

But it cannot be doubted, that the effects of such remedial agents as are commonly designated diaphoretics are in some cases injurious, in all, uncertain and evanescent. The various preparations of the tartarised antimony are of this class; but, as everybody knows, they not unfrequently nauseate the stomach, impair the appetite for food, and diminish the circulating power, and in this way manifestly impede the natural actions of the body to relieve itself of its disease; and the same may be said of opium, and its various medicinal preparations, and many other remedies of the same description; they appear, from the debility which they sometimes induce, to act rather by producing a passive cutaneous exudation, through a diminished action of the heart, than the healthy flow of the sensible perspiration which follows an increased activity of that organ, as we observe in all the diseases of debility, in contradistinction to those which occur in persons whose circulating power is strong and vigorous, where the perspiration affords relief to the symptoms, especially those of febrile congestion and excitement, whereas, in the opposite state of the circulation, no such good effects arise.

Arguing upon these, to my mind, well-established facts, I long ago considered that it might be possible, by the application of heat and moisture over the region of the heart, and, as nearly as might be, over the peripheral extremities of the ganglionic nervous system, assisted by the method of blanket-packing which I have described, to produce such a manageable excitement of the general circulation as would end in a complete action of the skin, without the necessity of taxing the stomach alone for a very round about and uncertain result.

I have had the satisfaction to observe, that the simple method which I have adopted in the treatment of fever, and which I practised in the foregoing case, has never, in any trial which I have made of it, failed in its object. I have now used it in a great number of cases, some of them of the worst description, and in every instance where the process has been judiciously managed, it has either at once annihilated the fever, mitigated its severity, or diminished its duration. I have also found it extremely useful in cases of small-pox, in constitutions where the circulating power has been naturally so feeble as to be insufficient of itself to throw out the morbid elements from the blood by the skin, and I hope shortly to be able, through the pages of this Journal, to introduce several of the cases which I have treated in this manner, to the notice of the Profession.

The natural progress of an active fever is accurately illustrated by the different phases of an intermittent, the cold stage or that of collapse, being succeeded by the re-active or hot stage, which, after a certain period, longer or shorter in different individuals, according to the natural power of the circulation, is followed by a more or less profuse perspiration. As soon as this latter stage is perfected, the urgent symptoms of the disease subside, at least for a time; the patient feels in comparative comfort; and it would certainly appear that something had been thrown out of the system through the skin and the other emunctories which had been exerting an injurious influence on the organism, and which absolutely required the febrile paroxysm for its removal. But this effort of nature is in most instances insufficient of itself to separate the whole or even the greater part of the poison from the blood; for we generally observe, that after an uncertain period, after the powers of the system have had time to recruit themselves, another paroxysm of the same kind occurs; and these being frequently repeated, until at length none of the materies morbi remain, the efforts of nature are no longer required, and thus the fever ceases.

It has struck me that, in the treatment of these diseases, it is a rational mode of practice to attempt, by the artificial production of a speedy perspiration, the acceleration of the cure, seeing how great is the relief which the natural process, even when imperfectly performed, affords. But it has been objected by some eminent authorities, especially of the old school, that induced perspirations are injurious, as being productive of such an amount of weakness as would lessen the chances of ultimate recovery; and such is probably true as respects the use of internal medicines, of themselves debilitating in their nature, but cannot hold good as regards the repetition of hot water to the skin for the same purpose, which, as it favours a more continued escape of the sensible perspiration, renders the frequent repetition of the febrile paroxysm almost unnecessary. It is the intensity and continuance of the febrile paroxysm, as a whole, and not the perspiration as a part, to which the debility has been by some, somewhat unjustly, attributed.

It is difficult to understand, exactly, the action of water applications in their effects upon the skin, in febrile disorders. Dr. Currie, of Liverpool, who has the credit of introducing the practice of cold water affusion in fever, and particularly in scarlatina, and which he practised with considerable success, thought that the results of the processes which he employed were due simply to the re-action of the capillary system, induced by the shock of the cold water thus applied upon the surface, whereby the blood which was circulating in the capillary vessels, during the hot stage of the fever, and struggling, as it were, to discharge its morbid elements through the cutaneous exhalents, was suddenly driven back to the heart and larger blood-vessels, which, being thus suddenly called into action, acquired a superadded vigour equal in most cases to the emergency, and by virtue of this increase of the propelling force, drove the blood again to the surface, and thus produced such an amount of increased capillary activity, as ended in their relief by perspiration, when the balance of the circulation was restored for the time; perhaps, also, the application of the water to the dry and burning surface might, by softening the skin, and clearing the openings of the sudoriferous ducts, have facilitated the production of the sweat; and this would appear to be true in some cases, where we observe the same effects to be produced by tepid ablutions.

But it would seem, that, over and above the simple effects of re-action of the capillary system, something may be due to the power of water as an efficient electrical conductor, and that, if there be any truth in the modern hypotheses respecting the influence of some particular electrical conditions of the atmosphere, in producing diseases of the body, resulting probably from a loss of the proper balance between them, water acts, by its conducting quality, in facilitating the restoration of the lost balance, either by allowing the more easy transmission of electricity into the body, the atmosphere being plus and the body minus; or, on the other hand, its more easy escape from the body, the body being plus; for, it cannot but be supposed, that, if these theories be true, the body would be at different times in these different states of electricity, which might be productive of different kinds of diseases.

Whether either of the foregoing theories of the action of water-applications in fever approach the truth or not, the method which I adopted in the case related, cannot be said to have acted altogether in either manner; I will endeavour, however, briefly to explain what I think to be its *modus operandi*. It will be observed, that the thick flannel pad, wrung out of the water, was placed as hot as it could be borne over the situation of the heart, and extended for some distance over the surface of the abdomen, and that the whole of the body was afterwards carefully wrapped in blankets, and a large quantity of extra clothing subsequently laid upon the bed. It was presumed, that by thus disposing of the heated pad, it was in the nearest possible contiguity to the circulating organ and the peripheral extremities of the organic nerves spread over the intestines; that the impression of the heat upon these latter was conveyed to the ganglia of the sympathetic system, and by a kind of reflex action to the heart, whereby its circulating activity was increased, enabling it to propel the blood with a greater force to the surface, and thus activity was probably assisted by the contiguity of the heated pad over the situation of the heart itself. The blanket wrapping, which, by excluding the cold air, prevented what is technically called the spasm of the skin, and, by preventing the evaporation of the insensible cutaneous exhalation, favoured the production of the sweat.

The want of space prevents my speculating at large upon the particular effects of the water application in the foregoing case; I can only say, that it acted like a charm. The sudden subsidence of the intense inflammation of the throat, and subsequently of the cutaneous efflorescence, lead me to believe, (from what I have been able to observe in this and similar cases,) that the poison of scarlatina resides essentially in the blood, which the skin, rendered entirely inactive and useless for the purposes of the economy, by the early occurrence of the pervading inflammation, is incapable of ridding it of, except when assisted by some such means as I have described; and it is probable that the mucous surfaces of the air passages and intestinal tube are similarly circumstanced to the skin. What wonder, then, is it, that the glandular system should suffer from the excessive action into which it has been suddenly called, by the necessity imposed upon it of separating from the mass of the blood those deleterious constituents which the skin seems utterly incapable of separating, and that the destructive disorganization of the tonsils, and the granular degeneration of the kidneys, which sometimes occur, should be the result of the excessive congestion to which they have been thus exposed.

The success which I have observed to attend these means of affecting the capillary circulation in fever has led me to employ them in restoring the diminished temperature of the body in a few cases of cholera, which have lately come under my observation, and in no instance, even in one of extreme collapse, have they failed to induce a complete re-action, with the cessation of the spasm, the usual result of a return of the healthy function of the skin through the circulating system. They have, of course, been combined with such other means as would simultaneously act upon the congested ganglionic-nervous centres, upon the integrity of which the healthy vigour of the circulation may be mainly said to depend. This auxiliary treatment has consisted of the exhibition of moderate doses of the essential oils, frequently repeated, especially of the oils of clove and aniseed, both of which are known to be capable of relieving spasm, by stimulating the nervous system of the digestive organs, and thus relieve the congestion under which they are suffering in this disease, and, in this way, secondarily aid the general restoration of the circulating power. In these cases, I have employed the hot water applications rather more extensively, the pads having been applied all over the abdomen and down the thighs, to encourage the returning circulation.

I trust I shall be excused, although digressing from the proper scope of this communication, if I venture to make a few observations on the pathological nature of cholera, which, like many others that have been advanced of late, may either be wholly hypothetical, or, on the contrary, may be worthy of such a small degree of attention as may lead to further investigation. I believe cholera, as it is now displaying itself with such fearful virulence in this country, to consist essentially of a congested condition of the organic nervous centres, and in some measure of the spinal cord and its investments, these conditions varying in intensity and degree, according to the intensity and power of the exciting cause. I believe, also, that this congested, and perhaps paralysed, state of the ganglionic system, induces the unavoidable interruption of the functions of every organ which is dependent upon this system for its regular and healthy action, and that these portions of the nerv-

ous system are in this disease more particularly affected than the brain. I will endeavour to prove —1st, Negatively, because, in the majority of cases, the intellectual faculties are observed to be from the first, clear and unaffected, and, in many cases they remain so to the last; of course, as the disease approaches the fatal termination, the cerebral functions become clouded, and coma ensues, from the circulation of poisoned or imperfectly depurated blood through the vessels of the brain, or, what is as probable, by the absorption of urea, occasioned by the suspended action of the kidneys, which frequently occurs only towards the end of the complaint, and constitutes one of its most fatal symptoms. 2nd. Positively, because, from the very onset of the disease it is observable, that while the sensory functions of the brain are, at least in the early stages, apparently unaffected, the functions of all those organs, which are dependent for their healthy action upon a normal condition of the ganglionic centres, are from the very commencement of the malady, interrupted, or perhaps entirely suspended; the heart, liver, stomach, and intestinal canal, and, indeed, all the apparatus of organic life, are affected with a more or less complete suspension of their action; and it is not till this particular portion of the nervous system is relieved of the congestion, or whatever else it may be labouring under, by the general restoration of the circulation, that the affected organs recover their proper tone. The spasm then generally ceases, for, considered as a salutary action to restore the disturbed balance of the circulation, it is no longer required,—the diarrhœa is diminished, the healthy action of the kidneys is restored, and the disease may be said to be removed, provided always that the means which have been used have not been too violent or beyond the actual necessities of the case, in which instance the reactive fever would be excessive, a sequence as much to be dreaded as the disease itself.

Unfortunately, the records of Pathological Anatomy have shed but a small light upon the actual nature of this dreadful pestilence, but as partially corroborative of the views I have entertained respecting its most probable locality, I shall be excused for quoting the following passage by Dr. Brown, an eminent authority on this subject* :—"In one case only in India was the state of the spinal marrow examined, and in that, strong indications of inflammation were detected in its sheath; the case, however, was in some degree a mixed one. But Dr. Keir found at Moscow the blood vessels of the vertebral column and spinal cord loaded with blood, which was sometimes effused between its arachnoid and dura mater; partial softening of the spinal cord was sometimes met with, and marks of inflammatory congestion in the large nerves were detected. The dissections performed in Sunderland generally furnished results corresponding with those obtained elsewhere." It does not appear, from what I have been able to learn, that the ganglionic system has ever been made the subject of minute investigation in this disease, but it is not altogether improbable that, from its contiguity to those parts which, according to the above distinguished physician, are actually known to have been the subject of morbid congestion may have been affected in the same manner, but escaped the vigilance of the observers.

I would treat a case of collapse from cholera precisely in the same manner as I would treat a case of suspended animation from drowning. I would turn my whole attention to the best method of restoring circulation of the body and the healthy action of the skin, pursuing such means as I thought most likely to effect this end; and I should consider it quite as great an absurdity and loss of time to attempt to relieve the sickness and suppression of the urine which often occur in the latter case by internal remedies alone, as to endeavour to restore the action of the liver and other organs whose action had been suspended in the former; I should consider that I was labouring in vain to control symptoms which were depending upon a manifest temporary suspension of the circulating functions, and which could not rationally be expected to be removed until these functions were restored. Certainly, I would administer brandy in the one case, and the diffusible stimulants in the other, but only for the general object of assisting the restoration of the circulation. I would not waste time in endeavouring to check the diarrhœa, which is nothing more than the result of the spasmodic condition of the alimentary canal dependent on the general congestion, squeezing out of the blood its serous, and in some cases its fibrous elements, which, mixed with the chyle previously to the attack contained in the small intestines, appears in this disease to constitute the true nature of the discharges. I would persevere in my efforts until all reasonable hope was lost, the main and principal object being the restoration of the animal heat, which I would endeavour to effect, as I have already in several cases effected it, by the simple means I have suggested.

* Cyclopædia of Practical Medicine.

DIFFICULT MIDWIFERY CASE—FŒTAL DISFIGUREMENT.

By WILLIAM HOLT, Esq., Bromley, Kent.

On the 19th inst., at one p.m., I was requested to visit a young married woman, aged 27, who was reported to be in strong labour with her first child, at the 7th month of pregnancy. The patient was a healthy-looking person, and had borne the effects of pregnancy as well as women in general. She had been in pain since seven a.m.; the pains were strong and frequent, and there had been a considerable discharge of fluid; the uterine tumour, also, had subsided a good deal. On making an examination, the presentation appeared to be the arm; but, on tracing it up towards the trunk, I felt a large, soft, fleshy mass, apparently attached to it, the shape and dimensions of which were much more like the breech than the shoulder. Still, I became convinced that it was the arm which presented, and following the usual practice in similar cases, I decided on turning without loss of time. The difficulty of introducing the hand into the uterus was not much greater than usual; I succeeded in reaching a lower extremity, but all I could do was to get a finger into the groin. Such was the elastic force of this fleshy mass, which blocked up the os uteri, that all my efforts to bring down the extremity were foiled, and I was obliged to desist. I was at a loss to conjecture what this substance was; it could not be the breech, as the lower extremities were found in the usual situation, in arm presentations; from being in connexion with the arm, I should have supposed it to be some part near the shoulder, but its softness, elasticity, and great distension, made it feel much more like a part of the abdomen. Still, the absence of the funis rendered this improbable. The alarm and severe pain endured by the patient had the usual effect of diminishing the uterine efforts; it appeared necessary, therefore, to rest awhile from all further attempts at artificial delivery. I now tried what could be done by simply pushing back the arm, having succeeded, some months since, in a case of hand presentation at the eighth month, in this way, without turning; in the present case I had not so good a chance, as the os uteri was completely obstructed by the soft tumour above mentioned; and so it happened that, although it was easy to push the arm back, it was invariably forced down again by the uterine efforts. Some may think that it would have been better to have tried this plan in the first instance; but the fœtus here appeared to be very little below the usual dimensions, independently of the tumour, and I believe any accoucheur, taking all things into account, would have felt that turning alone presented a fair chance of putting the case right. Not wishing to be altogether foiled, I took advantage of an accession of stronger pains to make a second attempt at turning, but was again disappointed, and, as it appeared, solely by the fleshy excrescence lying at the mouth of the uterus. I now felt serious doubts whether this difficult and embarrassing case could be successfully terminated without embryotomy. A good deal of the cuticle had exfoliated from the hand; I concluded, therefore, that the fœtus had perished; this removed all scruples on the subject, and I went down in order to send for my son to come to my assistance. While I was waiting down stairs till a proper messenger could be found, the attendant called me up rather hastily, as the pains were now very severe. On carefully comparing the size of the fœtal mass with the pelvic dimensions, and taking into account the soft flexible character of the former in its inanimate state, I was resolved, if possible, to avoid the disagreeable office of fœtal dismemberment, by bringing down the whole mass in the order, or rather state of disorder, in which the parts were now placed, making use of the arm as a purchase, whereby to bring down the other members of the fœtus. I, therefore, applied a napkin just above the hand to give me a firm hold; and after a while, by steady and persevering efforts, I succeeded in bringing down one part after another, till, at last, there was nothing to deliver but the head. One or two energetic pains brought down this, and the birth was now complete. The placenta came away easily. The patient has continued to go on very well, and is now convalescent. It appeared that there was a soft bag of cuticle as large as the double fist projecting from between the shoulders of the fœtus over the cervical and some of the dorsal vertebræ. It was not much unlike a case of spina bifida, but, on close examination, the spinous processes could be detected, and, indeed, it wanted some of the other marks of spina bifida; in fact, it was simply a case of great fœtal disfigurement. The mother attributed the death of the child to a severe fright she had about a month before delivery. During the earlier stages of pregnancy she had been often frightened by toads; and if I were to assign any reason for the cuticular disfigurement of the fœtus, I should think the sight of so disagreeable a reptile, acting on a susceptible imagination, might cause the squalid appearance which characterised not only the shoulders, but the whole frame of the fœtus, more or less. I have several times seen very strange effects produced on the fœtus by the mother having been suddenly shocked at the sight of a toad.

In giving publicity to this case, I do not for a moment doubt the necessity of turning in almost every case of arm presentation; the practice is sanctioned by universal approval. The case is recorded to show that there may be instances where turning is impracticable, or unusually difficult, in which the painful and disgusting process of embryotomy may be avoided by following the dictates of our own judgment, not being blindly guided by precedent, but accurately comparing what requires to be done with the means there are of accomplishing it, and deciding accordingly. In this way we may sometimes be able to bring down the parts exactly as chance may have placed them. In this sense I have thought the case worthy of record; and will now, without further remark, leave it to the perusal of my professional brethren.

CHOLERA ASIATICA.

By WILLIAM ABBOT LAKER, Esq., London.

The premonitory symptoms of Asiatic cholera are profuse diarrhœa, with prostration.

Professional assistance is, however, too often deferred till the disease has arrived at the stage of collapse, when the following symptoms generally present themselves:—The patient is prostrate; his countenance pale; features shrunk; eyes sunken; cheeks fallen, the parts about the eyes and mouth dark; lips purple; tongue purple, red, or brown; cold and tremulous; the whole visage ghastly. On further inspection, we find the whole of the body pale, diminished in bulk; the extremities livid, contracted, and shrivelled; nails blue; the body exhaling a peculiar fœtor; respiration shallow, frequent, and anxious; voice small and husky, in some cases almost or entirely lost.

By examination, we ascertain that the skin is cold, harsh, and constricted; the pulse very small, feeble, and quick.

The patient exhibits apathy, but replies rationally, complaining of severe spasmodic pains in the lower part of the trunk and abdomen, and cramp in

the thighs and legs. The chief pathognomonic signs, however, consist in the evacuations, namely from the stomach of a limpid, semi-transparent, greenish yellow fluid, jerked up at frequently recurring intervals without effort; and from the bowels of a peculiar whitish liquid, without bile or fecula, resembling water in which rice or soap has been boiled; while the passage of urine is altogether suspended.

After death, the lividity, previously observed passes off, but is now frequently to be found on the under surface of the body, which is more than usually rigid. Removing the integuments from the sternum, the muscular tissue that is divided and exposed is perceptibly dark and dry. Proceeding, we observe little or no change in the general aspect of the contents of the thorax and abdomen, except that the intestines have a rosy hue, frequently arborescent. When the sanguiferous viscera are excised, we find that they are filled with dark, thick tar-like blood. In the stomach and intestines, we discover a quantity of fluid similar to those evacuated during life. The urinary bladder is contracted and empty. The contents of the encephalon exhibit no change. In short, the *post-mortem* examination generally terminates in the manifest disappointment of the anatomist, who fails to detect any structural change sufficient to account for death, or to explain a disease which has run its course with frightful rapidity; proving interesting and instructive on this very account, rather than from what is actually revealed. To my mind, indeed, the investigation is perfectly satisfactory, being well assured of the propriety of here adopting the sentiment "*de non apparentibus, et de non existentibus eadem est ratio*;" and persuaded that the occult cause which eludes the senses is to be deduced by reason, in the consideration and comparison of known facts and phenomena, on physiological principles.

There are two principles essential to life, or two causes which, by mutual antagonism or combination, produce the effect—vital motion; one stimulation, the other stimulability;—analogous, though not identical, with electricity, positive and negative; neither of which is sufficient of itself to produce or maintain motion; the former diffused by the sanguineous system, the latter by the nervous. The blood being tangible and cognisable to the senses, while the nervous fluid is probably ethereal and extremely subtile; presiding over and regulating all the functions of the animal economy, as might be well illustrated by a consideration of hyperæsthesia and its correlative anæsthesia, as vulgarly practised through the medium of the stomach in inebriation, and scientifically through the lungs in inhalation.

It follows, then, that the harmonious operation of these two systems is essential to vitality; and when we have to deal with its partial negation in disorders not structural, we have mainly to consider which circulation is chiefly at fault, and this we may ascertain by referring the impaired function of organs to one or the other, according as we find their influence, first or chiefly abnormally exalted or depressed; or, as we find certain functions affected which we know to be performed by individual organs more particularly united by one, or a branch of one, or the other system, the other system, or other parts of the same, being not implicated, or only so in a minor and subordinate degree.

Now, let us apply these tests to Asiatic cholera. The *sectio cadaveris* demonstrates that no appreciable structural lesion has taken place, as either cause or result of the disease, but that it is purely a disorder of function. The mode of the attack, and the course of the disorder are such as to afford a presumptive evidence that in this, as in a very large class of diseases, the nervous circulation is the one primarily affected, and that the change in the circulation and condition of the blood is consequent, and, as I shall endeavour to show, dependent upon it. With respect to the question before us, this view will be confirmed by referring to the aggregate of symptoms as given above, with a consideration of the position of a certain branch of the nervous system, the entire of which branch is in a greater or less degree implicated, while the rest remains comparatively undisturbed. It will, of course, be anticipated that I allude to the nerves of organic life.

The most obvious disturbance is in the functions of the stomach and bowels, as manifested in the *profluvia*, and if I were to ask whether, even in the second or collapse stage of the disorder, their powers are exalted or depressed, I should probably be answered that the former condition was obvious. Let it, however, be remembered that the office of these organs is not merely to expel their contents, but that *secretion* is of paramount importance and I think the nature of the matters expelled during life, and their contents after death, are such as would oppose such a conclusion, as certainly as the idea is precluded that in general anasarca—say from debility after scarlatina—the serum of blood is *secreted* by the areolar tissue; instead of which, we shall in both cases find that what in the former supposition must be regarded as agents, are but the passive recipients of their contents.

That the power of secretion is suspended is sufficiently demonstrated by the cessation of action in the kidneys, shown by the total absence of urine, and by the fact that the evacuations are free from bile or fecula. With respect to the former, it might be objected that the fluid is carried off by the bowels. This, however, will not apply to the latter, for bile is found to exist in the gall bladder. Now every one knows that this fluid is not capriciously poured out, but that stimulation of the duodenum is necessary to excite the action of the biliary apparatus. The failure of this is not from emptiness of the duodenum, such not being its state. Still it may be answered that the fluid contained is not chyme, and therefore not stimulant. It cannot, however, be shown that actual chyme is essential to excite this organ, but, on the contrary, we know that bile passed through the intestines when the stomach has provided no such fluid; that, like the stomach, its action in health may be induced by the presence of even inert matter. The argument, too, that deviation in the course of the urine in the absorption of serum by the larger and free canal of the intestines is sufficient to account for its absence in its proper vessels, without attributing to the kidneys, &c., a suspension of power, will not hold, for I have seen the kidneys and ureters filled with the same fluid as that in the intestines in an inspissated state, extending to and lining the bladder, in which, however, there was not one drop of urine; proving their passive condition as mere mechanical passages.

Beside, a further proof is deducible from the complementary evidence of two facts, viz., that those cases in which the cessation of the abnormal evacuations is not quickly followed by those which are normal, are more certainly and rapidly fatal; while, on the other hand, when these do follow,—indicating the change from a passive to an active condition,—recovery may be safely prognosed. And again, we may adduce the enormous quantities of otherwise powerful medicines sometimes administered and remaining inoperative—such as calomel, to the extent of drachms.

It appears, then, that the stomach and chylopoietic viscera, as no longer stimulable, from the almost total cessation of their nervous circulation. I say almost total cessation; for, if the extreme atony were perfect, we should, of course, have an entire freedom from sensation, and all action would be at an end.

The nerves are not, however, in a state of absolute atony, but the circulation of the fluid, in one branch especially, is imperfect, irregular, and consequently spasmodic.

This leads me to consider the sanguineous congestion, so manifest, especially internally, and which would be still more evident, but that the blood is so much diminished in bulk by the drainage of serum.

In cholera, the energy of the heart is somewhat diminished by the partial atony of the nerves ministering directly to it, and a still greater proportional diminution of power in the arteries supported and conducted to the other viscera by the nerves of organic life; the blood is therefore no longer propelled to the surface, but congested in the internal parts, and there drained of its serum; consequently offering a further mechanical obstruction to free circulation,—producing at the former, paleness, shrinking, and cold; and in the latter, fullness, heat, and thirst. Moreover the blood, no longer conducted in sufficient quantity to the lungs, whose action is also itself diminished, is not duly oxydated, and being drained of serum, the black, thick, tar-like appearance of the fluid is produced, and is externally visible at those parts where it is most easily seen through the skin, whether from greater transparency or from the natural arrangement of the vessels at the thin extremities.

In the decreased circulation and oxidation of blood we have diminished stimulation, accounting for the mental apathy the patient frequently evinces; and while it is produced by, tends to prolong the atony of the nerves, operating as both effect and cause in quickly bringing about a total cessation of life.

Maintaining, then, the position, that Asiatic cholera consists in the almost total suspension of the function of secretion in certain organs, with irregular and partial sanguineous circulation, resulting in passive congestion; both dependent on their primary irregular circulation of nervous fluid from partial atony of that branch of the system which sustains organic life;—our attention is directed to those remedies which restore tonicity; and in a disease so fearfully rapid we may with propriety select such as are most rapid and energetic in their operation.

A consideration of the utmost importance obviously is, to begin at the right end; which certainly is not the surface of the body. Our operations must be directed to the citadel, through the portal, the stomach. Its condition, it must be confessed, offers a formidable resistance in the rejection of ingesta, but its efforts are not incessant. We may, therefore, reasonably hope that the frequent application of a corrective will not be entirely without effect; but of this we will treat after we have determined the general course proper to pursue. And here we shall be materially assisted by our knowledge of another analogous disorder, viz., common intermittent fever, where we have asthenia, or nervous atony, as the correlative of hypersthenia, or exalted tonicity, in alternating paroxysms, against which we fortunately possess a specific in quina, the *modus operandi* of which is highly instructive.

If administered while the nerves are in a state of excitation, in the hot stage, it increases their tonicity, till, being overwrought, they throw off their power, and greater general collapse ensues. Continue the remedy during the interval,—*i.e.*, as before, add to their tonicity or power,—and we bring the system up to the natural standard, able to sustain the next (mitigated) shock; and thus cure is gradually, but speedily and surely, effected.

Now, it is precisely this condition of nerve, in general, that we have to remedy in cholera. It is not stimulable, because atonic.

With the stomach, in particular, I would adopt a similar course, applying not a (now inert) stimulant, but an astringent, which, upon the same principle, being applied to the healthy organ, so overbalances its power that vomiting is produced; but which in this case must first raise it to the natural pitch before such an effect can possibly be produced by it. The most eligible, is, perhaps, the sulphate of copper.

Add to these medicines the corroborant property of cold, which, if exhibited internally in the form of large draughts of water, will possess the twofold advantage of diffusing itself, and the other agents more generally and uniformly, and conducting more directly to the *locus morbi*; and I humbly, but confidently, believe that we need no longer dread Asiatic cholera in its second or collapse stage.

In conclusion, I subjoin the formula I would submit, subject, of course, to the necessary modifications:—

℞ Sulph. cup., gr. ss. to gr. ¼; aq. frig., ℥ iv. to ℥ ij. M. ft. haust. cap. cum. haust. seq., in dos. alt. qq. ¼ to ½ hor.

℞ Sulph. quinæ, gr. v. to gr. iij; ac. sulph. dil., q. s., solv.; aq. frig. ℥ iv. to ℥ ij. M. ft. haust., ut supra.

℞ Mur. amm., nit. pot., aa. ʒ ss.; aq. frig., O j. M. Bib. ad lib., vel p. r. n.

HOSPITAL REPORTS.

WESTMINSTER HOSPITAL.

Communicated by Mr. DOWNE.

Ann Membray, aged 32, the wife of a private in the Coldstream Guards, presented herself amongst the out-patients with a tumour of the labium. She stated that, about five years since, she perceived a small tumour in the labium of the right side, the formation of which she was unable to account for, and, as it did not occasion inconvenience, but little importance was attached to its existence, until about two years since, when it rapidly increased. Leeches and different applications were had recourse to, from time to time, without benefit, and, at the period of her application, it had attained the size of a large duck's egg. From the inconvenience it occasioned during intercourse she was desirous of having it removed. A careful examination was made for the purpose of determining its character, and whether it was in any manner connected or complicated with labial hernia. No evidence of the latter affection being apparent, and the tumour presenting a circumscribed, moveable, fluctuating character, Mr. Holt decided upon its removal. The patient, with some difficulty, was placed sufficiently under the influence of chloroform to render her unconscious of pain, but its administration (although stertorious breathing was produced) was attended with considerable convulsive action, which did not subside during the operation. In consequence of the violent struggle of the patient, a small opening was unavoidably made into the sac previous to the extraction of the tumour, when a quantity of *apparently fœcal matter escaped*, which Mr. Holt immediately examined, but as there was an absence of all *fœcal odour*, and the tumour could be isolated from the surrounding structures, proceeded with the operation, and it was quickly removed; three vessels which bled with some violence were ligatured, the parts brought in apposition, and retained by two sutures and sticking-plaister. Upon examining the tumour, which, with the exception of the small opening made, was taken away entire, another cyst of a smaller character was detected imbedded in its coat, and presented fluid of the same character as that which escaped during the operation, and, upon the tumour being slit open, its internal surface corresponded in almost every particular, with the appearance of a portion of small intestine; it was of a brown, corrugated mucous character, apparently secreting matter resembling liquid fæces, but without the slightest inoffensive odour. The incision quickly healed, and the patient was cured without a bad symptom.

SCIRRHUS OF THE LEFT MAMMA.

Sarah Hoffrett, aged 45, a moderately robust and apparently healthy woman, was admitted August 22nd, with a cancerous tumour of the left breast.

Four years since, without any assignable cause, she experienced darting pains in the left breast, and, upon examination, detected a small tumour of a hard unyielding character, situated almost immediately beneath the skin, and above the nipple; but little attention was paid to it until twelve months since, when it began to increase; and she applied to a Medical Practitioner, when lotions and different applications were had recourse to without benefit, and within the last six months the tumour has rapidly increased. The pain is now very severe, more particularly at night; the tumour about the size of a large orange, adherent to the integument, (which is discoloured,) but not to the pectoral muscle; one gland in the axilla is enlarged, but not painful. The generally unsuccessful termination, and the probable return of the disease having been fully explained to her, she was left to decide whether an operation should be had recourse to; and, considering the importance of getting rid of that which would soon become an offensive ulcer, although only probably affording temporary relief, she was anxious the breast should be removed. Mr. Holt made an incision with a clasp bistoury, first along the lower, and the upper edge of the tumour, continuing it over the gland in the axilla, which, with the diseased mass, was entirely removed. Considerable hæmorrhage ensued, and several vessels required ligature. A piece of wetted lint was placed over the wound, and the approximation of the cut surfaces deferred until all oozing had entirely ceased. In the evening the edges were brought together with three interrupted sutures, and strapping and lint dipped in cold water over the dressing. She experienced but little pain after the operation, and upon examining the wound on the third day, three-fourths were found firmly united by the first intention. On the fifth, pus of a healthy character was secreted the remaining portion quickly granulated, and the entire breast was healed in twelve days. Upon examining the tumour, it presented the usual characters of scirrhus, and Mr. Holt remarked, that he should not have proposed any operation had the tumour remained quiescent, and not exhibited a disposition to ulcerate; but the rapidity of its increase, and adherence to the integument, which was already discoloured, induced him to suggest an operation, more for the purpose of relieving the patient from that which would have quickly become an offensive, ulcerated mass, than any great hope be entertained of a radical cure, although he had operated on two cases of a similar character five years since, and had frequent opportunities of seeing the patient up to the present time, during which period there had not been any return of the disease. He, in a great measure, attributed the success of those operations to the whole mammary gland having been removed, although only a small portion was apparently implicated.

STRANGULATED FEMORAL HERNIA.

Ann Smith, aged 60, a rather emaciated person, was admitted December 23, at half past nine, p.m., with strangulated femoral hernia. She has been the subject of hernia many years, and, except upon the present occasion, has always been enabled to return the greater portion of the protruded intestine with facility. Two days previous to admission, a greater quantity than usual was protruded, which she was unable to return soon became filled with fæculent matter, and upon her admission communicated a labulated and hard ened sensation to the touch. During the greater part of yesterday she had severe vomiting, and now complains of great pain across the abdomen, tenderness of protruded viscus, inclination to vomit, frequent eructations of fœtid gas, countenance anxious extremities cold, pulse feeble and quick, and tongue white. A small quantity of wine was given, and an injection administered, which brought away some hard scibalous matter. She was placed in a warm bath, and efforts at reduction attempted, however without success.

11½.—The pain and tenderness of tumour increasing, and some stercoraceous vomiting having taken place, it was decided the operation be immediately performed.

An incision was made by Mr. Holt over the tumour in a direct line with its long axis, and the different tissues divided down to the sac, which was very carefully opened by a small incision; there was not any escape of fluid, some difficulty being experienced in introducing the director between the sac and the intestine, from the firm agglutination which had taken place, the result of the effusion of coagulable lymph; this was, however, broken down, and the stricture, which was exceedingly tense, and situated at the femoral ring, divided; the intestine was much discoloured, but not gangrenous; it was returned, and the integument brought together with adhesive strapping, a roller being lightly applied over the whole. The patient expressed herself immediately relieved, and Mr. Holt desired she might have a little wine and water, and be left quiet.

24th, 8 a.m.—She has passed a quiet night. The bowels have acted three times freely; a great quantity of flatus passed per anum; no further eructations; skin moist; countenance cheerful; pulse 84, and soft; an absence of all pain; tongue rather white, but moist; and she expresses herself quite comfortable.

10 p.m.—Not having had any sleep during the day, she was ordered 25 minims of Batley's solution of opium, if necessary.

25th.—Progressing favourably; to have beef tea and arrowroot; bowels twice relieved.

26th.—Passed a quiet night, but was attacked this morning with shivering; bowels not again relieved; skin hot, and tongue rather dry; upon examining the wound an erysipelatous blush was detected; fomentations were ordered, and a mixture, with liq. ammon. acet. and excess of ammonia, every four hours; the pulse being feeble, a small quantity of wine was to be administered.

8 p.m.—The bowels have been once relieved; pulse more feeble, and slightly intermitting; skin perspiring; tongue white and dry; to omit the former mixture and wine; and take an ounce of the mist. spt. vin. gallici every three hours.

27th.—Passed a restless night; tongue getting brown and dry; bowels three times open; pulse 84, and feeble.

8 a.m.—Erysipelas slightly extended, and the edges of the wound have a sloughy appearance; continue the mixture every three hours; bread poultice and fomentation to the wound; and take beef tea as often as she can.

3 p.m.—More exhausted than in the morning; bowels again open, and vomiting of a bilious character has supervened. Cap. morph. acet. gr. ¼, creasote ♏j., hyd. chlorid. gr. ii. statim, and repeat every three hours until the sickness is abated. Continue the mist. spt. vin gallici, and wine and water.

8 p.m.—Has had two hours' sleep, and is much relieved.

28th, 9 a.m.—Passed a moderately quiet night; bowels once relieved; pulse 80, and soft; tongue more moist; skin cool; erysipelas somewhat subsided; there has not been any vomiting since taking the pill. Continue the medicine and nourishment, and omit the pill.

9 p.m.—Is somewhat better; no further vomiting, and pulse stronger than in the morning.

29th, 9 a.m.—Passed a quiet night; tongue moist and clean; pulse 81; skin cool; erysipelas on the decline; bowels been twice relieved; abdomen soft, and she can bear pressure at any part without inconvenience. Continue.

7 p.m.—Diarrhœa of a severe character has supervened; she has been four times purged, and is much depressed; pulse feeble, and belly tympanitic; to have a draught of aromatic confection, tincture of catechu in chalk mixture every two hours until the purging ceases; brandy and beef-tea every hour.

30th, 9 a.m.—Passed a restless night; extremities cold; bowels been twice purged. Continue brandy, &c. She, however, never rallied, and died at 1 p.m.

Post mortem.—Upon examining the abdomen, the peritoneum was found in its normal condition; the intestines moderately distended with flatus, but not displaced; the strangulated portion had nearly recovered itself, and was restored to its natural position in the abdomen; the gut in the immediate vicinity, both above and below, was perfectly healthy. Upon examining the mucous membrane of the colon, it presented in its whole course a blackened appearance, spots of blood being interspersed at different points, the whole highly congested, and having a similar aspect to the mucous membrane of patients who have died of cholera. The other organs were healthy.

THE PRACTICE OF THE BELFAST GENERAL HOSPITAL.

(Continued from Page 621, Vol. XIX.)

MEDICAL REPORT.

III.—Asiatic Cholera.

Alexander Gardner, aged 30; labourer; stout; ill 15 hours; died.

Case.—Collapse case; commenced with diarrhœa; and soon after vomiting and cramps collapsed in 6 hours; stools of gruel character; pinkish; duration 24 hours.

Treatment.—Hot-air bath; turpentine and ammonia frictions; diffusible stimuli; calomel and opium after Dr. Ayre.

2. Mary Crory, aged 41; married; ill 64 hours; recovered.

Case.—Admitted with pulse 96, and little depression; vomiting copiously; commenced with diarrhœa; vomiting in 33 hours; evacuations gruel-like; delirium, and contracted pupils in 70 hours; traces of bile in stools in 107 hours, simultaneously with mercurial action; irritable stomach and bowels for several days.

Treatment.—Stimulating frictions; turpentine enemata; soda effervescence; calomel and opium to salivation, commencing at 10 grains; opium for the bilious diarrhœa; and nourishing diet.

3. William Wheaton, aged 43; tailor; ill 88 hours; died.

Case.—Commenced with copious diarrhœa; vomiting and cramps, with lividity, in 78 hours; admitted in collapse; evacuations gruel-like; hiccup on the fifth day; mercurial action on the 6th day; slate-coloured stools on the seventh day; ditto on the ninth; suppression of urine, followed by delirium, on the twelfth day; after a convulsive fit, died on the thirteenth day.

Treatment.—External stimulants; calomel and opium in scruple doses; chloroform and camphor; draughts of castor oil and turpentine; turpentine mixture with sweet spirits of nitre; cupping over the loins.

4. Mary Ramsey, aged 22; ill 3 weeks; recovered.

Case.—Commenced with slight diarrhœa, which became worse on the 24th day; and accompanied with vomiting on the 25th; evacuations like tea; became bilious on the 26th; gums mercurialized on 28th.

Treatment.—External stimulants; calomel and opium; scruple doses; soda effervescents, with laudanum; opium alone during convalescence.

5. Ellen M'Quicken, aged 14; ill 33 hours; recovered.

Case.—Commenced with slight diarrhœa; in 24 hours vomiting and cramps in less; admitted cold and livid; tongue cold, and pulse 120, exceedingly feeble; slate-coloured evacuations on 3rd day; bilious on 4th, after which rapidly convalesced.

Treatment.—Hot bath (at 110°) on admission; stimulant frictions; two ℈ doses of calomel, effervescent draughts, with tr. op.; on 3rd day v.s. to 6 oz.; was not mercurialised.

6. James Nesbitt, aged 36; labourer; ill 15 hours; died.

Case.—Commenced immediately after supper with diarrhœa and cramps; admitted in perfect collapse; dejections rice-coloured, watery; evacuations became dark, with mercurial action on gums on 4th day; bilious stools on 5th; hiccup and slight jaundice on 7th; much salivation; ochry-looking evacuation on 10th; delirious, with convulsions of face on 11th; died on the 12th. The urine had been regularly secreted, but scanty.

Treatment.—Hot punch and stimulant frictions; calomel and opium to salivation, (first dose ℈j., afterwards grs. x. to iv.); Stevens' saline draught; chloroform with camphor was used with effect to allay the hiccup; Sir James Murray's bisulph. alum. et ferri for the bilious diarrhœa; dec. sarsæ c. hydr. potass (2 grs. every 2nd hour, after the mercurial action.

7. Alexander Reid, aged 40; labourer; ill 21 hours; recovered.

Case.—Commenced with painless diarrhœa; vomitings and cramps set in three hours before admission; admitted in perfect collapse; in 24 hours motions became feculent and soon bilious, with mercurial action; discharged well in a few days.

Treatment.—Hot punch, with creasote; stimulant frictions; calomel ℈j. to 5 grs. with opium, to affect gums; saline draught.

8. Ann Boyle, aged 42; ill 4 hours; died.

Case.—Took ill with diarrhœa; vomiting followed in three hours; evacuations rice-coloured; admitted with vomiting, purging, and cramps in limbs, and very weak pulse; evacuations dark on 2nd day; on 5th bilious vomiting, and drowsiness set in with flushed face; on 6th increased drowsiness, with hot throbbing scalp; on 7th stupor and stertorous breathing, with pulse at 80, and face affected with bright erythema; on 8th comatose, and left mamma became suddenly swollen and livid; died early on 9th; urine suppressed last two days.

Treatment.—Usual stimuli; opium and lead: 10 grs. calomel 3 times; turpentine and assafœtida enemata; oil, ether and turpentine draughts; chloroform and camphor; ves. pro nuchæ; effervescents; leeches to the temples, and mercurial dressings for the blistered surfaces.

9. Jane Hervey, aged 30; married; pregnant 8 months; ill 14 hours; died.

Case.—Took ill suddenly with vomiting, diarrhœa, and cramps in legs and abdomen; admitted collapsed, but pulse still with difficulty perceptible; evacuations rice-coloured; cramps in chest; stools became bilious on third day; on this day labour commenced, and after one severe pain, a dead and livid fœtus with placenta was expelled; four hours after began to sink, and died on fourth day.

Treatment.—Usual external and internal stimuli. Opium, capsicum, and calomel (gr. x.), several doses, and saline drink. Assaf. and opiate enema. Stimulants at close: no mercurial action.

10. John Douglas, aged 10; emaciated; ill 14 hours. Recovered.

Case.—Has been occasionally ill for some time past of vomiting and diarrhœa; got over with cramps 14 hours before admission; admitted in collapse, the pulse at times only barely perceptible. Evacuations dark on third day. Soon recovered, but during convalescence attacked with bronchitis.

Treatment.—Hot bath; hot punch; external stimuli. Calomel (gr. x.), several doses; chloroform and ether; wine c. oil and turpentine draughts; blister to chest, and expectorants at close; no mercurial action.

11. Eliza Taggart, aged 41; ill 12 hours; recovered.

Case.—Commenced with diarrhœa, soon followed by vomiting: admitted livid and cold, nearly pulseless, cramps, and precordial oppression; evacuations feculent on following day, with mercurial action on gums; some drowsiness; salivated: soon recovered.

Treatment.—Calomel (℈i. to gr. v.), several doses; effervescents; stimulants, externally and internally.

12. Bessy Watson, aged 27; ill 7 days; recovered.

Case.—Commenced with diarrhœa, which was accompanied first only, on morning of admission, by vomiting and cramps; admitted cold, blue, and with exceedingly weak quick pulse, thirst, and cramps; evacuations gruelly; became bilious third day after admission. Soon quite recovered: mercurial action.

Treatment.—Opium at first; calomel (℈i. to 10 grs.) three doses; external and internal stimuli.

13. Patrick Hughes, aged 24; dock porter; ill 10 hours; died.

Case.—Had been drinking, and (says) he caught cold; commenced with purging, vomiting, and cramps; admitted cold, blue, sunken eye, and very weak pulse at 96; evacuations characteristic, rice coloured; became bilious on third day, attended with hiccup; delirious with laboured respiration on fifth day; suppression of urine complete; evacuations black on sixth day, when he died.

Treatment.—Calomel (℈ i. with opium (gr. ii.); cal. subsequently alone and smaller doses; chloroform and camphor, v.s. to vi. oz. on fourth day; c. oil and turpentine draughts; blister to nape.

14. Patrick Mallaghan, aged 40; ill 4 hours; died.

Case.—Had been drinking hard of late; took ill suddenly with diarrhœa; rice-water evacuations; admitted in perfect collapse, with cramps; evacuations became pinkish on 2nd day, when he died.

Treatment.—Calomel ʒss., with 4 grs. of opium; afterwards three doses, several times; external and internal stimulants.

15. Ann Murphy, aged 40; married; ill 2 days; died.

Case.—Commenced with diarrhœa; which, on third day, was followed by vomiting and cramps; admitted in perfect collapse; evacuations on 4th, light slate-coloured; on 5th, dark slate-coloured; on 6th, decidedly bilious; some bilious diarrhœa succeeded; on 10th, bloody urine; much salivation; stupor on 11th; sank after this, and died on 13th day; urine nearly suppressed from 5th day.

Treatment.—Calomel (℈i.), and opium (gr. iv.) repeated with diminished doses; external and internal stimuli; cupping over loins to 4 oz.; Spt. eth. nit.; turpentine stupes to loins; c. oil and turpentine draughts; opium and opiate enemata for bilious diarrhœa.

In the above list, none but true and well-marked cases of this alarming epidemic will be found; and these in the different forms and varieties met with at the general hospital.

Our experience of the principal remedies used may be briefly given as follows:—

1. *External applications.*—Among these, artificial heat by means of the hot bath, the hot-air bath, bags of heated salt or bran, jars of hot water, &c., were found of essential service in restoring the temperature and rallying the depressed circulation. The bath was used as high as 110°, and was especially beneficial in young persons. Its action was enhanced by adding salt. The hot-air bath has been lauded by some, but does not present any material advantage over the other forms of applying heat. Indeed, we have for a long time given it up here, having observed the other and more economical modes quite as useful. But in applying heat successfully, assiduous frictions are necessary. We generally found the temperature and powers soon revive under their joint application; and this is always the first step to be taken when a cholera case arrives at the Hospital. To rouse the nervous and circulating systems still more effectually, the frictions must be performed with turpentine, or ammonia, or camphor liniments; and their action assisted by sinapisms to the extremities and the epigastric region. This to be never omitted, if cramps be present, and these external appliances persisted in until some decided revival takes place. Generally, from ten to thirty minutes' time suffices to bring about this favourable change.

2. *Stimulants.*—When the patient is brought in in a state of collapse, or a condition bordering thereon, the natural indication is for the diffusible stimuli-spirits, either whiskey or brandy, with ammonia and ether, are given with advantage, and aid the external remedies in restoring the temperature and oppressed circulation. Afterwards they may be given in very moderate quantities. But, while approving of this limited use, we must at the same time assert their inutility, or even positive injurious tendency, in immoderate doses. Useless, if the timely use is unsuccessful—injurious if re-action set in, by making it more serious. We advocate, then, only the moderate use of stimulants, only freely given when collapse is impending.

3. *Opium.*—In all cases this drug was administered, in some very largely. It seemed to act most beneficially in the early stages—indeed, its efficacy bore a direct proportion to the period of the disease, the earlier the more useful. We do not remember having seen its narcotic effects induced in true cholera, though it was given frequently in ordinarily poisonous doses. In cholera cases, verging upon or in collapse, the pupil is usually contracted, and, at first, this circumstance was deemed by many as the effect of the opiate treatment; but it was soon found to exist in cases where no such effect could have been anticipated from the quantity employed. In using this remedy, it was found that persistence in its use, after a few good doses, was ineffectual, and it was our custom to stop its administration whenever 5 or 6 grains (given in divided doses) proved useless. When diarrhœa and cramps co-existed, much more was indicated and given than in other cases; and frequently, when administered early, with a proportion of stimulants, many cases recovered which, there is reason to believe, would have run into collapse.

4. *Calomel.*—There are three modes in use of giving this remedy, viz:—1. Dr. Ayres' plan; small and very frequently repeated doses, with small quantity of laudanum. 2. Dr. Clanny's; a few very large (ʒss) doses: and, 3. Moderately large doses given generally (except at first) without opium, and continued at irregular intervals,—intervals varying according to the varying symptoms of progress. The 1st we tried in three bad cases with fatal results. The 2nd also without success; and the 3rd is the mode on which we chiefly rely. It is difficult to say how this remedy brings a bad case through; but that it does so not unfrequently we are confident. Sometimes it salivates, and this action and the beneficial change seem to be synchronous. But, again, in many cases of recovery, no such effect on

gums or system ensued. Here its beneficial operation was indicated by the return of the bile. Its action seems sedative. We have seen the most violent vomiting and purging, (characteristic,) checked at once by two or three 9 doses without laudanum. In using this drug there is little fear of bad consequences on the gums or mouth, however freely it may have been administered.

5. *Bleeding.*—We have practised this only in stage of re-action, and have both generally and locally. Its use is indicated to remove cerebral and venal congestion, and in the few instances when used it was essentially beneficial. No case presented itself in the early stage, when it seemed at all likely to be useful; and in collapse, the extreme torpor of the circulation, and the poisoned stagnation of the entire fluid, presented little hope of any benefit.

6. *Enemata.*—This form we employed in administering turpentine, opium, starch, nitrate of silver, and creasote. Upon none of these cases can we rely in the confirmed and advanced stages. The injections were either returned or were of no effect. The opiate enemata, in the very first stages, did seem of use, but not more so than the administration of the remedy in the ordinary way.

7. *Salines.*—Dr. Stevens' mixture was employed in many cases, but more as an adjunct than a primary treatment. We cannot state anything positive regarding it. Its use certainly did not lead us to employ it with much hope of success. It demands, however, further trial. Soda, effervescent draughts, we gave largely and with benefit, checking vomiting, and allaying the urgent thirst better than any other remedy besides; they did not in any degree aggravate the diarrhœa.

8. *Astringents.*—Of this class, acetate of lead, preparations containing tannin, Sir James Murray's bisulphate of alum, and iron, and turpentine, were severally employed. In all the forms of diarrhœa, save the confirmed choleric, their use we found frequently beneficial; but even here uncertain and temporary, unless aided by opiates. We certainly observed nothing specific in any of them.

9. *Diuretics.*—Though the bilious secretion has been restored, we may be a long way off recovery, on account of the obstinate suppression of urine. In most cases of fatal re-action, this state, by accumulating the poisonous urea in the blood, carries off the patient. Diuretics, therefore, seem indicated. We find, however, the so-called class very imperfectly useful. Squill, sweet spirits of nitre, juniper, iodide of potassium, and turpentine seemed of little avail. Cupping, leeching, or stimulating the lumbar region, we observed of much more direct benefit, sometimes the urine appearing within an hour after such treatment; and the pathology of the disease at this stage evidently leads to this view.

Besides the above, we may mention, that in cases of great irritability of the stomach, we found creasote of some use, and in some cases of hiccough with cramps, chloroform with camphor we employed with evident benefit. Electricity (from the magneto-electric machine) we have applied, but were not induced to repeat it often. Camphor invariably formed a part of our stimuli.

The diet we principally enjoined was chicken-soup, toast-water, arrow-root, eggs beaten up with spirits, during the disease; and rice, veal, mutton, or chicken-soups and bread during convalescence. The usual potations were the saline drink, or cold water, or toast-water, or soda effervescents with or without stimulants.

The above is a brief but correct general view of the mode of practice in managing this formidable disease in the Belfast General Hospital. We have, it will be seen, not omitted to employ remedies of repute elsewhere; and though we cannot boast any specific or even any single efficient remedy, yet we believe our general line of treatment is as steady, rational, and as effective as any of which we possess authentic records.

[To be continued.]*

* The next series will comprise a list of cerebral cases.

PROGRESS OF MEDICAL SCIENCE.

FRANCE.

[From our own Correspondent.]

Ecce iterum Crispinus,—that is to say, the cholera, which continues to creep on in a manner that begins to excite some apprehension. On Wednesday, for example, the mortality from cholera, in the hospitals, was 31; and in the city, 28; making a total of 59. Since then we have had an increase of one or two per day. Still the total mortality does not exceed the average of ordinary times, which ranges from 60 to 65 a day.

The Academy of Medicine has recently received from the Prefect of Police an official account of the mortality, for the first six months of 1849. It runs thus:—

Mortality from various diseases.		Cholera. In city.	Cholera. In Hospitals.	Total of cholera.	General total
January	2755	—	—	—	2755
February	2545	—	—	—	2545
March	3156	130	440	570	3726
April	3270	694	1176	1870	5140
May	3115	2426	2098	4524	7639
June	3886	5769	2214	8713	11599
	18727	9019	6658	15677	34404

From the above it appears, that of 34,404 deaths, which occurred during the first moiety of the present year, at Paris, 15,677, or nearly one-half, occurred from cholera; and if to these we add 790 deaths in July, and as many in August, we arrive at a sum total of 17,257, little different from that of 1832, which reached 18,556. There is, however, this remarkable difference between the two epidemics, viz., that nearly three-quarters of the deaths, in 1832, or 12,471 out of 18,556, occurred in a single month,—the fatal month of March.

The sweating sickness appears to have taken its departure from the capital, without having excited much notice. The cases, indeed, were mostly of an insignificant kind, showing rather the effects of an epidemic constitution, than an actual malady.

I regret to state, that the chief symptoms under which General Cavaignac has laboured for so many years, have assumed a character which renders it necessary for him to change climate.

Andral, it is said, has been summoned to London, to hold a consultation with our "Summites," on M. de Metternich.

THE NATIONAL EXHIBITION.

Medicine and her accessories have not been forgotten in the immense collection of national products which forms the exhibition in the Champs Elysées. The Chemists hold the first rank. No less than sixty-seven manufacturing houses or companies have enriched the collection with a variety of rare and useful products, to which I propose to call attention in my next.

The Pharmaceutical products have been furnished from ten houses, not forgetting the interesting specimens sent from the Government establishment at Algiers.

For surgery, we have the instruments of Charriere —*facile princeps*: of Luer, a German maker in the Place de l'Ecole; Portier and Co., successors to Sir Henry, as he was called, probably because a Knight of the Legion of Honour; of Bordeaux, from Montpellier, and several others. I do not find anything from the hand of old Carter, who has represented English cutlery for so many years in the Place de l'Odeon.

The dentists, of course, cut a magnificent figure —at their head the Dean of quacks, Desirabode; but these we may "leave alone in their glory." Of inodorous apparatus, and instruments of every kind to overcome refractory bowels, there are abundance. To see the long line of the latter, one would imagine that the French were the most *costive* nation on the face of the earth. Yet we have daily, and alas! ocular proof of the contrary.

An artist might fill a rich album with these curious devices; but, as I have no taste in this line, I shall rather direct your attention to

ARTIFICIAL ANATOMY AND PATHOLOGY. DR. AUZOUX AND MADAME THIBERT.

The productions of Dr. Auzoux form one of the most interesting divisions of the National Exhibition; of their unrivalled excellence and utility it is unnecessary for me to speak; but it is not, perhaps, so generally known, that Dr. Auzoux has converted his art into an industry, and established a regular manufactory at his native place, St. Aubin, in which from sixty to eighty workmen find profitable employment all the year round.

As there is "nothing new under the sun," so we learn that we are indebted to the Greeks for the original idea of imitative anatomy. Pausanius informs us, that the Grecian statuaries made anatomical figures in marble and bronze; and there still exists, in the Museum of the Vatican, a fragment of one of these statues, representing the osseous framework of the human chest. Marble soon gave way to plaster, and the latter material to wax. Colouring was now added to the famous productions of the Florentine School, (of which Trinity College, Dublin, possessed a fine collection,) leaving little to be desired, either for faithfulness of representation or beauty of work. It would, however, appear that the honour of having first applied colour to the wax models belongs to a Frenchman, Maitre Jacques, of Angoulême. Up to the middle of the sixteenth century, Rome still possessed three admirable anatomical figures of this artist, from which, it is said, the immortal Michael Angelo derived his knowledge of the anatomy of the human frame. Maitre Jacques transferred the art to Italy. Zambo, of Syracuse, made several remarkable preparations during the reign of Louis XIV.; amongst others, a head, which exists at the present moment, and displays the anatomy of the brain, eye, and ear.

In 1750, Galli, of Florence, illustrated the history of pregnancy; Lelli and Mantolini reproduced the generative organs of both sexes, and finally, MM. Bertrand and Dupont, of Paris, made their celebrated collections, illustrative of the infinite evils of the venereal disease.

The labours of Dr. Auzoux commenced about the year 1820, and since then his life has been devoted to the cultivation of his art. The material which he employs is one of his own composition, differing considerably from the paste known under the name of "carton-pierre," or stone pasteboard. It is easily cast into moulds, dries speedily, becomes elastic, and acquires a solidity almost equal to that of wood.

I need hardly mention, that the grand object of M. Auzoux's preparations, is to facilitate popular instruction in anatomy; and for the "vulgus" the preparations are just as useful as the originals could be. Several specimens, in the present exhibition, contain a complete cabinet of human anatomy in a single model, the prices varying from 10*l.* to 120*l.* sterling for each. But M. Auzoux does not confine himself to human anatomy. This year he gives us an admirable series of specimens intended to illustrate, on a grand scale, the comparative structure of the different classes of animals. Thus, the mammalia are represented by a horse; the class of fishes, by a skate; insects, by a hanneton, and by the silk-worm; the mollusca, by a snail; the annelydes, by a leech; and the zoophytes, by a polypus.

The model of the horse, which is three feet two inches high, can be taken to pieces on the left side, and as each piece is removed, the original anatomy of each part is successively displayed in the most admirable manner. But the *chef d'œuvre* of the collection is the silk-worm, a gigantic model two feet in length, in which the minute structure of the insect, and its silk-making machinery, are wonderfully brought to light. What Auzoux has done for normal anatomy, Dr. Thibert undertook to execute for pathology. Rejecting wax preparations as of too perishable a nature, he invented a species of model in relief, coloured after nature, and resembling the original with the most scrupulous exactness in every respect save that of texture. Thibert was removed from the sphere of his labours by a premature death; and Dr. Bourgery, who undertook to complete the collections of the Rue Hautfeuille, fell a victim to cholera; but Madame Thibert survives, and the preparations which she has sent to the

Exhibition this year are calculated to give a very high idea of their value. It is, in fact, impossible to imitate every shade and form of pathological production in a more complete manner; and I cannot avoid here expressing a hope that so much talent may not be left without due encouragement. Several of the rarer specimens ought to find a place in every museum throughout Europe.

MECHANICAL LEECHES.

Amongst the medical curiosities of the Exhibition, I must not forget the mechanical leeches of M. Alexandre. Though not endowed with locomotion, they have probably found their way into England before this; my notice shall, therefore, be brief. The main qualities of the new annellidæ are two—they bite always and never die. In short, they are nothing more nor less than two little tubes, a suck ing and a scarifying one—the former in glass, the latter in copper—destined to imitate the two acts of the leech. It would, however, be more correct to denominate them "tubular cupping-glasses," for such they are in reality. The value of the modification experience alone can determine; but I doubt much that they are destined to supersede leeches altogether. I have not seen them employed myself; the Academy of Medicine, however, reports favourably of them, and says, "the instrument is a very useful one, and may replace leeches with advantage in the great majority of cases." The Ministers of War and Marine, and the Directors of the different Hospitals, both Civil and Military, have ordered these leeches to be employed in the different establishments under their control. M. Alexandre has made an excellent "hit," if nothing else.

THE INTERMITTING SYPHON.

One of the most ingenious instruments in the Exhibition is the intermittent syphon of M. Bloch, Assistant-Chemist at the School of Strasbourg. It is of a somewhat conical form, the smaller end being placed in the fluid to be filtered. The fluid passes very gradually from the smaller to the larger branch of the syphon, and it accumulates in the latter until its weight overcomes the tubular attraction, when the little column falls into the filter. This occurs four or five times a minute, and the quantity discharged by the instrument exhibited appears to be about a scruple, or something less. It is unnecessary to point out the utility of this simple instrument in chemical and pharmaceutical operations. It also gives us the means of solving a very difficult problem in hydraulics, viz., that of keeping a constant level in a vessel which discharges its contained fluid; for we all know that the velocity, and therefore the quantity, of the fluid discharged diminishes as the square root of the "head," or elevation of the fluid above the orifice. The principle might—it strikes me—be applied to lamps and the boilers of steam engines; but this concerns Dr. Ure rather than the *Times*. If it has not yet found its way to England, the syphon may be procured at the Rue des Fossés Montmartre, No. 17.

SCOTLAND.

[From our Edinburgh Correspondent.]

Edinburgh is, as usual at this season, excessively barren of interest. One of the few topics that keep discourse alive is the vacant St. Andrew's chair. There is no lack of candidates, and Edinburgh is at present their head quarters. Among those who have already announced themselves are—Dr. George Paterson, Dr. George E. Day, Dr. P. Redfern, Dr. R. M. Glover, Dr. A. G. Melville; and to these we believe we may add Mr. John Adamson, of St. Andrews. They are all good men. Dr. Paterson is well known in Edinburgh, being Secretary to the College of Physicians, and an Infirmary Physician of eight years' standing, a popular lecturer on Clinical Medicine in the extra-academical school, and formerly assistant-lecturer in the University Clinical Course. Dr. Day is a Fellow of the London College of Physicians, the well-known translator of Simon and Vogel, and the author of a late work on the Diseases of Old Age. He distinguished himself when still a student here, by a very able essay on the Chemistry of the Urine, which gained the Harveian prize. Dr. Redfern is Lecturer on Anatomy in King's College, Aberdeen. He was a distinguished Edinburgh student, and afterwards obtained high honours at University College. Dr. Glover is one of the Newcastle lecturers. Like Dr. Day, he gained the Harveian prize when a student here, his essay being on Bromine. He has since become known to the Profession for his able treatise on Scrofula. Dr. Melville is the recently appointed Professor of Natural History in Queen's College, Galway. He was formerly Demonstrator of Anatomy in our University, and is the author of several memoirs—among others, of a late interesting work, on "The Dodo and its Kindred." Mr. Adamson is a highly ingenious person, well known as a Medical practitioner in St. Andrews, of whose services the University has availed itself latterly in the conduct of the course of Chemistry. It seems to be pretty certain now, that no attempt will be made, as was at one time expected, to convert the Professorship of Medicine into a chair of Natural History. The party in the University favourable to that change are, we understand, a decided minority, and have turned their expectations of providing a lectureship of Natural History into another channel.

We observe, by the report of the proceedings of the National Institute, in last Saturday's *Medical Times*, that we here are not singular in ascribing the delay of the Medical Reform Bill to the obstacles raised by the Council of the London College of Surgeons. It is really too bad, that so small a body as the Council should be permitted to thwart the general wishes of the Medical Profession. But we trust the obstructive few will not be able to domineer much longer. New men are getting into the Council, and the balance must, ere long, turn in favour of more liberal sentiments. The electors should be called on to muster in force, and supply the two vacancies caused by the retirement of Mr. Welbank and the death of Mr. Goldwyer Andrews, with men who will carry with them into the Council some sympathy with the general sentiments of the Profession.

We see Mr. Henry Smith, in your pages of last Saturday, singing a pæan over Mr. Syme, on the old story of the excision of the head of the thigh-bone. Mr. Smith still forgets, that the question between them is not, whether the head of the thigh-bone can in any case be removed with a successful result; but whether there be any instances of disease, coming strictly under the head of morbus coxarius, in which such an operation is expedient. Mr. Syme says, that in that disease this operation will have a favourable issue in those cases only in which recovery would have spontaneously taken place. Mr. Smith contents himself with assuring us that the girl in question has completely recovered. He asks us to believe, without satisfactory evidence, that the case was one of unequivocal morbus coxarius. The disease had its origin in a pretty severe injury. Mr. Fergusson admits, that the disease might have recovered spontaneously, and tells us himself, that, before the operation, he removed a portion of loose *necrosed* bone; and Mr. Smith is particular as to the acetabulum being filled up with a deposit of new bone. Is it unreasonable, then, in us, to ask for distinct evidence of this having been an example of genuine morbus coxarius? Is it so certain, from the meagre account given of it, that it was not rather allied to the still little-studied cases of necrosis affecting the articular ends of bones? Without stopping to inquire what Mr. Syme thinks or has said of this particular case, there is no difficulty in admitting, that Mr. Fergusson was right to operate, as the result shows. But, while the expediency of the operation is allowed, in a case plainly partaking more of the nature of necrosis than of caries, no inference is warranted in favour of the operation in unequivocal examples of morbus coxarius. What would Mr. Smith say to an argument of this kind:—A says he has cured twenty cases of cancerous mamma by operation. B replies that cancerous mamma is not curable by operation. A triumphantly brings evidence that he has removed the mamma twenty times, and shows to everybody's satisfaction that the women notwithstanding are all alive and well. What follows? Not that A is right, but that he has yet to learn the nature of a *non sequitur*.

We have had some straggling cases of cholera here of late, but we are very unwilling to believe that they are numerous enough to amount to a distinct revisitation of the epidemic. Indeed, both on this occasion, and on the last in 1832, the disease has assumed less of an epidemic character in Edinburgh than in many other towns. In 1832 it began in February, and went on attacking but few for many weeks; in May it became more prevalent; sunk again; rose again in July; and, after sinking a second time for a week or two, began to rise again towards the end of August, and continued increasing throughout September and great part of October, in which last month it reached its maximum; it then gradually sunk in November, and finally disappeared in December. In most seasons the ordinary bowel complaints of this country are probably most frequent with us in September and October, and from the course just indicated in 1832, we can hardly flatter ourselves that the disease will altogether cease here till the usual season of bowel complaints has passed by. Our statistics of cholera were more exact in 1832 than they can be at present, owing to the want of power in our authorities to compel practitioners to report their cases. We feel the want of the Cholera Act which was in force at the last visitation, by which a penalty was imposed for neglect to report.

AMERICA.

PROXIMATE AND ULTIMATE ELEMENTS OF FUNGI.

Dr. J. K. Mitchell, of Philadelphia, says, of all vegetable substances the fungi are the most highly animalised. Like animals, they disengage carbonic acid and imbibe a quantity of oxygen; nay, some of them extricate hydrogen, and even nitrogen. Their chemical composition also allies them to animal structures. They yield the vegetable products, resin, sugar, gum, fungic acid, and a number of saline compounds; but they also afford the adipocere, albumen, and osmazome of the animal kingdom. The basis of these plants is fungin, a tasteless but highly nutritious substance, white, soft, and doughy. It yields by nitric acid, nitrogen, hydrocyanic, oxalic, and some other acids, and fatty substances, like wax, tallow, and, in some instances, oil.

ASSOCIATION OF FUNGUS LIFE WITH THE EXISTENCE AND PROPAGATION OF GREAT EPIDEMICS AND INTENSE ENDEMICS.

Dr. J. K. Mitchell quotes a number of writers who have recorded the presence of "moulds," of a white, yellow, grey, or even black colour, adherent to the roofs of houses, pavement of cities, to articles of wearing apparel, and domestic utensils of wood; also of "blood rain," a red blue earth brought down with showers, and the rapid decay of fruit, at the same time, with plagues, pestilence, and violent fevers. In Africa, when the rains and the sickness commence together, the fungiferous powers are fearfully developed. According to Park and Lind, the first rains stain the clothes, and make even woollens and leather mouldy and rotten in a day or two. The like extraordinary tendency to the production of moulds has been noticed in different parts of the United States, during the period of epidemics of yellow fever, and also in cholera. So, likewise, was it in the *sudor anglicanus*, and in the epizootics of cattle.

TREATMENT OF HYDROCELE.

Dr. Horner, of Philadelphia, in his communication to the Committee of the American Medical Association, remarks, that he has found the treatment of hydrocele rendered much more certain by the introduction of a few threads passed through the tunica vaginalis from the bottom to the top, even where the process by injection is the main feature of the case. His experience has shown him that no injection is to be wholly relied on, unless in connexion with subsequent treatment. The effect of any irritating injection into the tunica vaginalis, he observes, is not only to produce a secretion of

lymph, but also of serum, and if the latter accumulates, it will of course keep separated the opposed sides of the tunica vaginalis; hence a common cause, perhaps the most frequent, of failure in all injections. This obstacle, he adds, may be very easily overcome with four or five threads of silk, which will carry off the serum as fast as it is secreted, and thus allow the two surfaces of plastic membrane to touch and coalesce.

IODINE IN THE TREATMENT OF SNAKE-BITES.

Dr. Whitmire states (*North-Western Med. and Surg. Journ.*) that he has used the tincture of iodine in cases of the bites of the rattlesnake, viper, and copper-head, in both man and beast, with the effect of putting an entire stop to the swelling and pain of the bitten part in from 12 to 16 hours. He paints the bitten part over the whole swelling with three or four coats of the tincture twice daily, and should the swelling extend, which it almost always does after the first application, if made soon after the infliction of the wound, he repeats the application. The third application puts a stop to the extension of the swelling, and three or four more will generally restore the limb to its natural state, except, perhaps, sensibility to the touch, and soreness of the muscles.

TO CORRESPONDENTS.

Our Correspondents must pardon us if we again remind them, that all Communications intended for the Editorial department of this Journal are to be addressed, not to its Publishers, not to Mr. This or Dr. That, but directly to the Editor of the *Medical Times*, 147, Strand.

We have also to request that gentlemen, when they favour us with communications, will have the candour to inform us, if, at the same time, they have forwarded copies for publication to any of our Contemporaries. Every Editor ought to be allowed to exercise his own judgment as to a Communication being of sufficient value or importance to warrant its appearance simultaneously in more than one Journal. For our part, we claim the right to use our editorial discretion as to the admission of such papers into this Journal; and, after the above Notice, the columns of the *Medical Times* will be closed against those who may offend in this matter. Moreover, we would remind whoever it may concern, that the act of sending the same paper to contemporary Journals has a very quackish, and therefore unprofessional appearance; it seems as if the writer sought more to circulate his own name, than to advance science; and, when such a motive influences an author, then, in our opinion, an advertising column of the daily press is the most appropriate medium for his purpose.

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THE MEDICAL TIMES.

SATURDAY, AUGUST 25, 1849.

PERHAPS no more lamentable exhibition of the total absence of philosophical principle, as a guide to the attainment of knowledge, was ever displayed than that of the conduct of the Medical world, in testing the efficacy of the various remedies proposed for the cure of cholera. Great were the anticipations, loud the boastings, of what science would effect if that disease invaded Europe. In time it afforded the learned every opportunity for exerting their skill. But, after they had watched its every phase, and analysed with the vaunted crucible and lens the blood and organs of its victims, they saw the disease depart, leaving them as uninformed as to its nature and its cure as when it first came among them. Nay, more; not only had they discovered no specific,—not only had rationalism and blind empiricism failed to supply the one great desideratum—a cure; but they had also failed in that which, had they combated the disease with system, they must have succeeded, *i. e.*, in determining the comparative efficiency of any of the countless remedies proposed. And now that cholera has re-appeared, after an absence of seventeen years, it finds, and bids fair to leave us, in the same doubt, not only as to how it ought to be treated, but how it ought not to be treated. There is not a remedy but has its advocates,—there is not a remedy that has been fairly tested. Doctors differ,—so laymen interfere, and confusion is worse confounded. The most opposite treatments have their advocates, and every advocate proves, at least to his own satisfaction, that his remedy cures, that he knows why it cures, and why it always must cure. We hear men, who acknowledge that they have lost nearly half their cases of collapse, talk of the treatment they found efficacious—the efficacy of a mode of treatment under which 45 per cent. of the patients died! Other men, grave men, honourable men, assure us, that not more than 3 per cent. of their patients die; and anon, other men, grave and honourable men too, confidently affirm, that the cases on which the former founded their statements were not cholera, but trifling ailments from which the patients would have recovered without any treatment. The officers of the only Institutions where the value of the boasted therapeutics could be put to the test, appear driven about by every wind of doctrine—to be "in wandering mazes lost."

In not a single Hospital, so far as we can learn, has a method of treatment been systematically adopted; so that, when the present epidemic ceases, we shall be as wise as we were when it burst upon us; and, if it ever reappear, we shall have the old medicaments again urged on the Profession to hurry—for all cannot be good—more victims to the grave.

The natural history of the disease is unknown. Comparative results are unattainable, because no method has been adopted, no treatment steadily carried out.

This subject has been again thrust on us by a Circular we have received, just issued by the Royal College of Physicians, but dated August 6th, 1849, which runs thus—

RESOLUTION OF THE CHOLERA COMMITTEE.—"That Hospital Physicians and other Members of the College be requested to communicate the results of their experience on the subject of Cholera, as at present prevailing, to the Secretaries of the Committee."

If, before the inroad of the epidemic, the Cholera Committee had examined the evidence in favour of the various methods proposed in 1832—to show how it might have been accomplished we may refer our readers to the excellent papers of Mr. Ross, published in our own Journal—had then issued a brief statement of those plans of treatment, and an abstract of the evidence in their favour, had joined to such a document a proposal that the patients admitted into the hospitals and workhouses should be placed in rotation as they entered, under each of the methods of treatment which, by the evidence adduced, seemed the most trustworthy,—we should now be in a position to estimate the value of these systems; and if we had only *proved*, that the loss of life was greater under any one of the methods proposed than under the others, we should have made one step in advance, at least we should have one less impediment to overcome in our search after truth. But now the results only of the experience of the Fellows and Licentiates—the Cholera Committee ought to have known that there are no Members of the College—are asked. Why, how can any results have been obtained when the treatment has been different for every patient admitted? We strongly suspect, that Drs. Stevens and Ayre would repudiate the mode in which the treatment they respectively advocate has been conjoined with that they utterly condemn—brandy, ginger, cinnamon, calomel, chloroform, opium, and salines have been thrust indiscriminately down the *same* unfortunate's throat, and the patient said to have died, according to the whim of the reporter, while under the treatment recommended by Dr. Stevens or Dr. Ayre.

Blind empiricism, that is, experience unaided by method, and shallow rationalism,—theories unsupported by facts,—have alternately guided the treatment. No system has been adopted, therefore no results can have been obtained. When will the rules of induction guide Medical observers in their search after therapeutic truths?

Since writing the above, the Registrar-General's Weekly Return and the last notification of the Board of Health have reached us. The latter offers but little novelty in the way of treatment; opium is still the panacea, and the objectionable compounds previously prescribed are again recommended. The former has only to give the details of a gloomy picture of the health of the Metropolis, and to lament the absolute inadequacy of the "general sanitary measures now in operation to the emergency," and the want of those simple administrative arrangements by which efficient medical relief might be placed within the reach of the people.

This last evil must become daily greater so long as the epidemic extends, unless the Parochial Boards are willing to engage a larger staff of paid officers for each district, or to afford something like fair remuneration for the services of their present Medical men, so that they may obtain for themselves efficient assistance. For men, like the St. Pancras Board of Guardians on Tuesday last, to bid the poor apply in greater numbers to Medical men, already, according to the Registrar-General's report, taxed "to the utmost of their power, and discharging their painful duties with praiseworthy diligence and humanity," without enabling those men, already miserably paid, to obtain assistance at the cost of the parish, is, indeed, absurd. All are agreed,

that the premonitory Diarrhœa—our remarks at the commencement of this article apply to cases of collapse,—is under the control of medicine, if judiciously prescribed and promptly administered. Then, we assert, that these Boards of Guardians—Guardians of the poor, indeed!—are morally guilty of the death of every individual among those committed to their charge, who may have died for lack of Medical attendance.

THE TEETOTAL QUESTION.

We beg to recall to the attention of our readers a very sensible German article on Teetotalism, by Dr. Metz, a translation of which appeared in our Number of the 11th instant. Most of the practical relations of the subject, both as regards past experience and future conduct, are there definitively stated. It only remains to us to add a few words concerning the position and bearings of the question, as regards the English Medical Profession.

The more indiscreet partisans of the total abstinence views would ensure a very speedy settlement of the question, and upon what they consider very indisputable evidence. They would fain quote instances of the abuse of alcohol from the Old Testament, or praises of temperance from the New; and, with these as their watchwords, dispense judgment and vengeance upon all who cannot receive their dicta or obey their commands.

Fortunately, however, the tide of theological dispute has ebbed from this point of late: its waves have been dashing all too fiercely around Mr. Wortley's Bill, and have left the former controversy high and dry on a quiet sand-bank of indifference. Long may it rest there!

The physiological features of the question are, however, almost as fierce matters of contest: and the most ludicrous statements and counter-statements have been made on both sides. This, we are bound to say, is more a feature of the abstinence party than of their antagonists: the latter are generally, from their profession and position, men of at least average information, who have often deservedly earned the melanotic honours usually obtained by fighting a sweep. The former hardly require that their station and character should be described, for the Brick-lane Branch Association is immortal, and the converted fireman Mr. Anthony Humm, the disinterested vessel Mr. Jonas Mudge, and the gifted hero of the wooden leg, all are, or ought to be, the mental property of every reader.

Once for all, it is clearly recognised, that alcohol is not food; or, in other words, that it undergoes no digestion, but is received at once into the vessels. Whatever be the modifications which it undergoes in the blood, it is highly improbable that they can ever render it like unto the constituents of the body, or, in brief, can ever result in a genuine assimilation.

Still it must be recollected, that, on the one hand, what modification cannot accomplish, decomposition may. On the other hand, to say, that it is not food, is by no means to deny its necessity or usefulness, for the same might be said of air or light. The fact alleged would widely distinguish it from beef and bread, but it would not assert it to be necessary or unnecessary, advisable or inadvisable.

The facts upon which we must predicate these qualities of alcohol are very different. Does alcohol modify life? and, if so, how? What influence does it exert on the organisms of its moderate users, and of its habitual abusers? And what is the effect of its non-use on those who altogether renounce it?

At present, a complete answer can scarcely be returned to all of these questions. The habitual and excessive use of alcohol is known to be, in the vast majority of instances, most prejudicial, and even fatal. But the moderate use does not seem at all incompatible with the most robust health.

Still, even allowing for the influence of habit, it is scarcely possible but that its most moderate use entails some effect, and in some way modifies nutrition; and later physiological researches render it not improbable that these results may speedily be laid open to our view. In the meantime, what is, perhaps, most wanted, is a strict comparison of the total abstainer with the moderate user of alcoholic fluid; and, in order to this, so close a similarity is required, that it can scarcely be attained by the comparison of individuals; but, like the great problem of health generally, must be worked out in numbers and masses. At present, Jonadab, the son of Rechab, and his teetotal descendants, are worn quite threadbare by perpetual quotation, and really require rest, if not superannuation. And the teetotallers of modern times are, as yet, scarcely a proper basis for calculation; although, both as regards the perfection of their health and their immunity from disease, grave suspicions are even now entertained by some observant members of the Profession.

In working out this question, we cannot too constantly bear in mind the physiology of civilization—especially in nations like our own, in which the body, subjected to the severest mechanical toil, is associated with an intellect whose responsibilities and exertions raise it far above that of the savage; and all this in the midst of physical circumstances which are always unvarying, often unvaryingly wretched. A large proportion of our population labour for a long series of hours in mechanical drudgeries, which occupy the body without the mind, and leave them utterly exhausted; while their position, or habits, or tastes, deny them many of the endless varieties of nature which would form the best relief to their lassitude. Under these circumstances, the desire for mental relief, amusement, and excitement, takes some other form, and amongst natural agents a stimulant is eagerly sought after, to remove the pain of mental exhaustion and anxiety. At present, excise regulations and adulteration render tea and coffee diluted and innocuous, public opinion checks opium, and somewhat moderates the use of tobacco. But the physiologist knows, that all of these substances, to be agreeable by their moderate influence, must be poisonous in a larger dose: and, unless a man be absolutely prepared to forego every one of them, he may be a man of taste in preferring the least intoxicating, a man of prudence in selecting the least hurtful, and a man of feeling in preferring that by the general use of which the least mischief would be done; but he steps beyond mere nutrition and the more obvious exigencies of his system, and has no right to affect the character of a hero of self-denial.

Probably, in an ideal human existence, all such stimulants are utterly unnecessary, and, so far as they have any perceptible action, are hurtful. But it has yet to be inquired, whether their moderate use does not directly or indirectly enable a greater amount of work to be performed, with less harm to mind or body than would otherwise result. And, if this be the case, while the effect of excess is a question which need not be entertained for an instant, it may teach us to moderate our clamours against the moderate use of any one of them, and direct more attention and exertion towards the removal of the evils which recommend their immoderate use; viz., overwork of mind and body, insufficient or improper food, and deficient air and light.

Under any circumstances there would, perhaps, be some found who distinguish between use and abuse,—between the wine which "maketh glad the heart of man," and the overdose of the same fluid which "biteth like a serpent and stingeth like an adder." There may be reasons of convenience and philanthropy, which would induce such to abstain, and, in the latter case, all honour be to their feelings. But, on medical grounds, and viewing society as it is at present constituted, we are scarcely as yet entitled to denounce the moderate use of alcoholic beverages as necessarily hurtful; or if so, we cannot isolate them in this respect from many other stimulants.

On the whole, considering the condition of the labouring classes, this question ought to be regarded as forming but a small part of a great sanitary movement, upon which it is in a great measure dependent, and without the progress of which, the mere discountenancing of a particular stimulant would be doubtfully prudent, and certainly futile.

THE QUEEN'S COLLEGES IN IRELAND.

During the Viceroyalty of the Duke of Rutland, the Irish Parliament being at one time in a mood of peculiar philanthropy, voted a sum of money for the erection of fountains in the city of Dublin, to supply water gratuitously to the poor. This money was placed at the disposal of his hilarious Excellency, who was entrusted with the selection of the most appropriate sites, and the various executive details. The fickle Viceroy at once proceeded to obtain plans and estimates, selected the most gorgeous and expensive, and fixed on the most fashionable localities in the city for the contemplated eleemosynary erections. It was true that the chief squares and first-class streets were not exactly the districts in which the poor were principally congregated, and it would have been manifest to any judicious mind, that the whole utility of the grant was neutralized by such selection; but that was not the consideration which arose in the minds of the aristocratic inhabitants of the vicinity; the inconvenience they dreaded was not to the poor, but to themselves; and the congregations of ill-dressed and squabbling room-keepers, crowding with pitchers and kettles before their very windows, affected their imagination as the worst of conceivable nuisances. They accordingly represented their apprehensions to the Lord-Lieu-

tenant, and he, good-natured man, immediately sympathised with their feelings, and promised that the fountains in course of erection, while they should be ornaments, owing to their elaborate architecture and sculpture, should never be the slightest annoyance, for he would take care that they should be always *dry*. This sage resolution was accordingly adhered to; and there stands at this moment in Merion-square a "fountain" gracefully designed, and richly ornamented with tablets of the purest marble, erected out of funds originally devoted to the benefit of the poor, but from whence, to this moment, a drop of water has never flowed.

History has been said to be "an old almanack;" and certainly, year after year, and century after century, present to us events, which, however varied may be the circumstances, are nevertheless very analogous in their essential characteristics. It may be an Imperial and not an Irish Parliament that is now legislating for the sister kingdom; the object may be to supply education, and not a mere physical requisite to the Irish people; but it is as necessary at this day as in the times of His Grace of Rutland, that the acts of the Local Executive should be closely scrutinised, lest the munificent intentions of the Legislature should be frustrated, and the fountains of knowledge be kept always *dry*.

We have been led to these reflections by an examination of the names, recently published in the *Gazette*, of the gentlemen selected by the Lord Lieutenant of Ireland to fill the various Professorships in the three new Colleges recently founded in Belfast, Cork, and Galway. We stated, on a former occasion, our opinion of the great responsibility imposed on His Excellency by the necessity of making these appointments. The success or failure of a gigantic speculation, on which the British Parliament has already expended 120,000*l*., and has incurred a liability of 20,000*l*. a year for its continuance, mainly depended upon the honesty and judgment with which the claims of the various candidates were sifted. But the magnitude of the funds hazarded can afford but a very feeble indication of the greatness of the interests at stake. It is manifest, that the success of an experiment so costly, and connected with such important interests, could only be insured by the employment of the very best materials. We consider it to be the wisest economy to employ adequate means to gain the end in view. Expecting the Irish Executive to be guided by this principle, we have carefully studied the appointments to the Medical Professorships in the New Colleges, and we regret to say, that the result of our examination has been a sense of profound disappointment. We do not mean to assert, that the new Professors are other than respectable men in all the relations of private life; nay, the greater number of them might, in routine circumstances, or in slight difficulties, fulfil the duties of their position in a creditable manner; but the conditions amidst which they are placed are not ordinary: they are required not only to teach, but to excite a disposition to be taught; not merely to gratify, but to create an appetite. We take it, that the purpose of the Legislature, in founding these New Colleges in Ireland, was to set up there luminous founts, from whence the light and warmth of useful knowledge might flow over the length and breadth of the island, diffusing amongst the middle and upper classes, without distinction of creed or party, a delight and skill in those sciences and arts whose cultivation best conduces to social prosperity and happiness.

We have no desire to comment on any of the new appointments, except those immediately connected with the Medical Profession; we shall, therefore, confine our remarks to those appointments which, being more immediately connected with medicine, are of chief concern to our readers and ourselves. The following list contains the Medical Staff of the three new Colleges:—

BELFAST.

Anatomy and Physiology.—Alexander Carte, M.D. F.R.C.S I.; late Demonstrator of Anatomy in Trinity College; and Conservator of the Museum in the College of Surgeons in Ireland; author of Papers on anatomical and surgical subjects.

Practice of Surgery.—Alexander Gordon, M.D., Honorary Member of the Royal Physical Society of Edinburgh; late Professor of Surgery in the Royal Belfast Institution.

Practice of Medicine. John C. Ferguson, M.D., late Professor of the Theory and Practice of Medicine to the King and Queen's College of Physicians; Physician in Ordinary to Sir P. Dunn's Hospital; Author of "Contributions to the Literature of Medicine."

Chemistry.—Thomas Andrews, M.D., F.R.S., M.R.I.A., Vice-President of the Queen's College, Belfast.

Natural History.—George Dickie, M.D., Lecturer on Zoology and Botany in the University and King's College of Aberdeen; Author of numerous contributions to botanical science, published in various scientific periodicals.

Materia Medica.—Thomas O'Meara, M.D., formerly University Medical Scholar of the University of London.

Midwifery.—William Burden, M.D., Physician to the Belfast Lying-in Hospital; late Professor of Midwifery in the Royal Belfast Institution.

CORK.

Anatomy and Physiology.—Hugh Carlile, M.D., late Lecturer on Anatomy and Physiology in the Park-street School of Medicine, Dublin; formerly Anatomical Assistant to the late Professor Macartney.

Surgery. Denis B. Bullen, M.D., one of the Surgeons to the North Infirmary, Cork; Author of a Work on Cholera, and of Communications to the Medical Journals.

Practice of Medicine.—D. C. O'Connor, M.D., Physician to the Workhouse, Cork.

Chemistry.—J. Blyth, M.D., late Professor of Chemistry in the Royal Agricultural College, Cirencester; Author of *the* Work on Chemical Analysis for the use of Agricultural Students, and of Original Memoirs on Chemical Subjects, published in the Scientific Journals of Germany and England.

Natural History.—William Hinks, LL.D., formerly Professor in the Manchester College, York; Author of Original Papers in Botanical Science.

Materia Medica.—A. Fleming, M.D., Author of a Treatise on the Aconitum Napellus, and Communications to the *Monthly Journal of Medical Science*.

Midwifery.—J. A. Harvey, M.D., Physician to the South Charitable Infirmary, Cork.

GALWAY.

Anatomy and Physiology.—Croker King, M.D., M.R.I.A., F.R.C.S.I., Professor (Honorary) of Anatomy to the Royal Dublin Society, and Demonstrator of Anatomy to the University.

Surgery.—James V. Brown, M.D., Member of the College of Surgeons of Ireland, A.B., T.C.D.

Practice of Medicine.—N. Colahan, M.D.

Chemistry.—E. Ronalds, M.D., Lecturer on Chemistry in the Middlesex Hospital; Editor of "Knapp's Applied Chemistry," and of the *Journal of the Chemical Society*.

Natural History.—A. G. Melville, M.D., formerly Demonstrator of Anatomy to the University of Edinburgh; Author of a Work on the Dodo and its Kindred, and of several papers on subjects of anatomy, &c.

Materia Medica.—Simon M'Cay, M.D., Lecturer on the Theory and Practice of Surgery, and Examiner in Materia Medica in the Royal College of Surgeons, Author of Notes of Dr. Collis's Surgical Lectures, and of Papers on Medical and Surgical subjects.

Midwifery.—No appointment.

Our readers will be amused, we feel no doubt, at the additions to the above names, which beat anything similar in the *London Medical Directory*. Of the veracity of these appendages, a very good example is exhibited in the qualifications added to the last name in the above list. Would not any one imagine from the wording of the passage, that Dr. M'Cay was lecturer on the Theory and Practice of Surgery in the Royal College of Surgeons? whereas, the fact is, that this gentleman simply lectured on Surgery in a little private school, set up by himself, and which school perished, some twelve or fourteen years ago, of a rapid consumption, after a very brief existence. And, again, credit is taken for his being the "Author of Notes of Dr. Collis's Surgical Lectures!" What would be thought of a reporter of the *Medical Times*, seeking for a Professorship in King's College, or University College, on the ground of his having reported Mr. Liston's lectures? Yet the case is precisely parallel. We take this case merely as an example, for we are quite sure, that Dr. M'Cay had nothing to do with the trickery and misrepresentation to which we have alluded.

The first thing that will strike any one who attentively peruses the foregoing list, will be the large proportion of local physicians and surgeons that have been appointed to the various Professorships. In Belfast, the chairs of Surgery, Chemistry, and Midwifery, have been filled by the former occupiers of the same chairs in the Royal Belfast Institution. In Cork, the chairs of Surgery, Practice of Medicine, and Midwifery, have also been bestowed on resident Practitioners; and, in Galway, two of the local doctors have been made Professors of the Theory and Practice of Surgery and Medicine. If the Medical Men of a provincial town are qualified to lecture, and can get classes to attend them, we do not see why they should be prevented; and, in accordance with this opinion, the various licensing bodies are in the habit of recognising, under certain regulations, certificates from Provincial Schools. Such schools have for some years existed in Belfast and Cork. The former, we believe, has had a fair class of students; and, if the latter failed, it was because of the incapacity of the teachers; for in the instances in which the lecturers were worth listening to, the classes were always large. Still it must be acknowledged, that Provincial Schools labour under considerable disadvantages, one of the chief of these being the want of an adequate field for clinical observation. This is an inherent inferiority which Provincial Schools labour under, when compared with Metropolitan; and one that cannot be removed by Parliamentary Grant or Royal Charter. Lectures and Museums are of little utility in the education of the physician or surgeon, unless the students have also sufficient opportunities of studying the phenomena of disease by the bedside. If the medical schools of Belfast or Cork are capable of competing, on equal terms, with those of Dublin or London, and of furnishing adequate clinical instruction, there can be no necessity for Governmental

interference. Our present Premier has declared himself an advocate for the policy of *laissez faire;* and in no case is that policy more imperatively demanded than in this. To bolster up, by Government grants and patronage, bad or inferior Medical Schools, is to rear up for the service, or rather injury of the public, a bad or inferior race of Medical Practitioners. If the Professors of the Belfast Institution have proved efficient and successful teachers, they have their reward, but have no peculiar claims to being created Royal Professors and pensioners on the public purse.

But if the local Practitioners in Belfast, Cork, and Galway are to be converted into University Professors—if the claims of the Colahans, Browns, Bullens, O'Connors, and Harveys are to be preferred to those of men who have distinguished themselves in Medical and Surgical Science, because they are local Practitioners, and because the introduction of rivals from the Metropolitan Schools, of men who might compete with them, and perhaps supplant them in the emoluments of practice, would be a grievance and a wrong,—if that be the rule by which the Executive had resolved to be guided, how are we to account for the exceptions? Dr O'Connor in Cork, and Dr. Colahan in Galway are considered to be good enough to be made Royal Professors of Physic. Was there no one in Belfast fit to occupy a parallel position? Why should Dr. Ferguson be transferred from the peaceful bowling-green of Trinity College, Dublin, to the lecture-hall of the northern Metropolis? We doubt much if the members of the Belfast Pathological Society will approve of this distinction which has been made between the Practitioners of their loyal city, and those resident in the capitals of the south and west nor will their sense of wrong be diminished by the recollection, that the gentleman thus sent down to supersede them, had earned a title to Government reward, as early as 1817, by being the first to accept, in the teeth of his Professional brethren, the remuneration of five shillings per day, proffered by the Board of Health for attending fever patients.

When it was first announced that Medical schools were to be attached to the new Colleges, the Dublin teachers got into a panic; they feared that this new competition, supported by Government, would seriously injure the Dublin School of Medicine. A meeting was called, and a deputation waited upon the Viceroy, to represent the mischief about to be inflicted; and it is said, that His Excellency listened attentively to the complaint preferred, and promised to inquire into the matter. We have not been told that the Earl of Clarendon positively promised to obviate any injurious rivalry on the part of the new schools; but if he did, sure we are, that he has effectually kept his word. Like his predecessor, to whom we have alluded in the commencement of this article, he has erected beautiful buildings calculated to adorn the localities in which they are placed; but, just as the Duke of Rutland took precautions to keep his fountains "dry;" so has the Earl of Clarendon, by his Medical Professorships, rendered it certain that the Medical schools attached to the Queen's Colleges in Ireland shall remain without pupils.

THE OPERATIVE SURGERY OF JOHANN FRIEDRICH DIEFFENBACH.

Edited by
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(Continued from page 125.)

CHAPTER III.
CAUTERIZATION.
Ustio, Cauterisatio.

Cauterization is produced either by means of medicaments which decompose the organised textures, (*cauterium potentiale,*) or by burning, (*cauterium actuale.*)

THE POTENTIAL CAUTERY.

Caustic is employed in a solid or liquid state, or in the form of a paste, a salve, or a powder. If applied in a dilute state, so as not directly to destroy the surface, it determines an alterative or a diffuse but superficial decomposing effect.

Caustic is used particularly for eroding the flesh in the instance of envenomed wounds, (but here excision is preferable, because, as formerly mentioned, the resulting eschar is apt to retain the poison in the system,) in superficial parenchymatous hæmorrhage, in callous ulcers, in cutaneous cancer, in lupus, in variola sanguinea, and in chronic abscess, either in the form of a solid cylinder, for the purpose of making an opening, or in that of a liquid, for throwing into the secreting cavity; or like an injection into serous cysts, as hydrocele; also for making issues; as a stimulant where the edges of the skin are flabby and suppurating, or to incite inflammation in parts still covered with epidermis, so as to favour coalescence, as, for example, in cleft palate.

The usual caustics are nitric acid, sulphuric acid, sulphate and acetate of copper, chloride of antimony, potassio-tartrate of antimony, nitrate of mercury, bichloride of mercury, red oxide of mercury, chloride of zinc, nitrate of silver, quicklime, hydrate of potash and arsenic; to these may be added concentrated tincture of cantharides as an excellent medicament for promoting vigorous granulation.

The action of caustics is very variable, partly owing to their nature, the mode of application, and the parts with which they are brought in contact. When used in a liquid state, the moist surface, as, for instance, that of an ulcer, must be previously wiped dry with picked lint, to prevent overspreading. In parenchymatous hæmorrhage the blood must be repeatedly taken up with a sponge, and the solid caustic applied at short intervals. Dry escharotics require the intervention of moisture. In order to protect the adjunct parts against excoriation from liquefaction of the caustic they may be smeared over with an ointment composed of two parts of wax with one part of oil, or bound with a piece of plaster having a hole in the centre, provided the caustic melts slowly, applying the same ointment beyond and a dossil of lint on the top to imbibe any fluid exudation.

1. *Liquid Caustics.*—Those most frequently resorted to are sulphuric acid, concentrated solutions of hydrate of potash, and of nitrate of silver. After the surface has been previously cleansed, and the vicinity sheltered against any diffusion of the medicament, the application may be made, with a pencil of spun glass attached to a glass tube.(a) This obviates all chance of chemical decomposition and impurity. At the outset, the surface ought to be touched very gently; but, after dabbing on a little picked lint, it may be re-touched more freely with the corrosive. Dilute solutions, which act gradually, may be applied with a dossil of lint, but for shallow ulcers, small portions of thick twilled calico are preferable. For sinuous ulcers plugs of lint, of a suitable length and thickness, after previous moistening with the solution, may be introduced with a whalebone probe. The alteration produced on organic textures by different caustics is very variable. Nitric acid occasions a yellowish white, muriatic acid a hard white, and sulphuric acid a dirty brownish black scar.

2. *Soft Caustics.*—Escharotics, in the form of salve or paste, act more slowly and profoundly than in that of liquid, even though the basis be the same. Arsenic has long been held in high repute as a remedy in cancer, not merely on account of its topical escharotic power, but from its exercising an alterative influence over the adjunct parts, and thereby insuring a longer respite from the ravages of that intractable disease, than most other medicinal agents of the class. Its employment ought, however, to be restricted to small superficial affections, as, for example, cancer of the skin and lip, and to obstinate ulcers, which sometimes occur at the roots of the nails. When the cancerous malady is extensive, as in scirrhus of the breast, arsenic is both inefficient and dangerous. As a general rule, it ought never to be applied to a bleeding surface.

White oxide of arsenic, or arsenious acid, rapidly destroys the parts with which it is in contact, and causes a severe and abiding sensation of pain, which does not abate until the flesh has become dead and arid like that of a mummy. The fantastic formula of Frère Cosme, which is still in vogue with some Continental surgeons, is as follows:—Take of vermillion 2 drachms, the calcined soles of old shoes 8 grains, dragon's blood 12 grains, white arsenic 2 scruples; triturate together into an impalpable powder. A paste is made by adding a little water to a certain quantity of this powder, which is pencilled over the surface of the ulcer, and a piece of lint super-imposed. It is allowed to remain until a complete slough is formed. The resulting sore is afterwards dressed with an ointment consisting of equal parts of almond oil and white wax spread on lint. If the process of granulation be languid, a little levigated red precipitate may be dusted over the surface by way of an alterative. I cannot too strongly caution young practitioners against adopting this mode of treatment for large malignant ulcers. I have witnessed the death of a female in consequence of having had an injudicious quantity of the arsenical paste applied to an open cancer of the mamma. In delicate persons, also, even after the most careful employment of the medicament, symptoms of poisoning have been known to supervene. Under such circumstances, the application ought to be removed forthwith, some bland dressing substituted, and the appropriate antidotes administered by the mouth.

Hellmund's modification of Frère Cosme's paste is thus prepared:—Take of vermillion half a drachm, the calcined soles of old shoes 3 grains, dragon's blood 4 grains, white arsenic 10 grains; reduce the whole to an impalpable powder. Take of Balsam of Peru, extract of hemlock, each one drachm, acetate of lead one scruple, laudanum half a scruple, cerate one ounce; mix together so as to form an ointment. Half an ounce of the above ointment, combined with half a drachm of the powder, is spread upon lint, which is cut into small squares, and thus applied to the diseased surface previously wiped dry, and made to include a portion of the healthy circumference. The whole is covered with picked lint and strips of plaster. After the separation of the slough, the sore is treated in the manner above described. Dupuytren recommended a powder composed of 1 grain of arsenious acid to 99 of calomel, for superficial sores of the face; Rousselot one containing 8 parts of arsenious acid, 22 parts of dragon's blood, and 70 parts of red precipitate.

(According to Christison,* absorption seems less likely to occur when a strong arsenical mixture is used, containing one-tenth, or even one-fourth part of its weight of arsenious acid, than when the weaker mixtures are applied, which are made use of generally on the Continent. A convenient mode of applying it is to form it into an ointment with

(a) I have been in the habit of employing a pencil of this description, furnished by Messrs. Bell, of Oxford-street.—A. U.

Dispensatory, p. 185.

lard, or into a paste with conserve of roses, thickened, if necessary, with powder of gum, and to add some powder of opium, to allay the pain).

Chloride of zinc has, in a great measure, superseded the arsenious acid as an escharotic. It is now extensively applied, in the form of paste, not merely to cutaneous carcinoma, but occasionally to cancer of the mamma. Canquoin suggested its admixture with wheaten flour in different proportions. Thus, his paste No. 1 is composed of one part of the chloride with two parts of flour; No. 2, of one of the chloride with three of flour; and No. 3 of equal parts of each. The powder is mixed with a few drops of water, then set aside in order to attract additional moisture, which renders it soft and plastic. To augment the suppleness of the paste, one part of chloride of antimony is sometimes conjoined with two parts of chloride of zinc.

[As the wheaten flour prescribed in the above formulæ is apt to envelope the chloride in a glutinous dough, which tends to blunt its power, or at any rate to confine its action to the particles on the surface of the paste, I have been in the habit of substituting a portion of anhydrous gypsum in its stead. This, while it can exercise no chemical action upon the chloride, forms a porous medium, through which the particles of the deliquescent chloride may transude upon the morbid surface, with the effect of decomposing or destroying it with certainty to any definite depth.

When the integuments are sound they may be removed by means of a blister, and on the following day one or other of the above preparations, corresponding to the thickness of the tissue to be destroyed, is to be applied to the cutis of the diseased part. I have generally employed, as more convenient for this purpose, the caustic ammonia or hydrate of potash.

The depth to which it will corrode the morbid texture can always be estimated beforehand; its action is unfailing, and the eschar is separated in most cases from the 8th to the 12th day, coming away quite entire in the form of a whitish-gray mushroom-like substance, and leaving behind a singularly healthy sore, which heals with great rapidity. In numerous instances, where I have applied it very largely, I have never known it productive of constitutional disturbance. The pulse remains natural, and the skin cool. Yet it acts as a powerful local stimulant, causing swelling, redness, and pain. The last is of a violent burning character, persisting, with great intensity, for the first eight or nine hours; after that time, *i. e.*, when the surface is fairly eroded, it becomes supportable, as the patients express it, and continues so during the remainder of the application of the remedy. An important point is, that the pain is in a great measure under the control of opium, a full dose of that drug previously administered seldom failing to give great relief.

From considerable experience in its use I am disposed to conclude, that it is chiefly efficacious in those so-called semi-malignant tubercles and ulcers which make their appearance about the face of persons advanced in life, where the skin is involved, but without any depth of new structure; in the circumscribed tubercle of the cicatrix following operations for cancer, in a form of lupus, which I have described (a), as the erosive ulcer of the follicles of the skin, in superficial ulceration of the neck of the uterus, and in nævus maternus. In true carcinoma affecting glandular and fleshy parts it will only effect temporary melioration. See article "Caustics" in "Cyclopædia of Surgery."—A. U.]

3. Solid Caustics. Those most in repute are nitrate of silver and hydrate of potash. Both coincide in that they rapidly and completely destroy the vitality of the soft organized textures, inducing gangrene, but in different ways. Thus the former determines dry, the latter moist gangrene. The caustic potash causes a liquefaction of the organic substance, with which it combines so as to form a kind of dark smeary soap; the lunar caustic, death of the part, followed by a black, mummy-like desiccation, resembling senile gangrene. The potash, from i liquescency is advantageously resorted to in cases malignant pustule. Here it was employed by Dupu tren in the form of troches. The same surgeon als had recourse to it for cauterizing the neck of the uteru when affected with carcinoma; he previously intro duced a speculum, and with a dossil of lint held i forceps, carefully dried the part. After the appl cation, a round soft compress was passed up th vagina, and then the speculum withdrawn. Th caustic, however, is not well adapted for the abov purpose, from its proneness to spread. Lisfran gave the preference to nitrate of mercury dissolve in nitric acid. The most exact way of man pulating the potash is to fit the fused cylinde within a glass tube, and by means of a probe passe up from the opposite end to keep it in appositio with the integument, or morbid surface. The slim shreds are wiped away with a soft rag, and afte enough caustic has been expended, the spot covered with lint, and the adjoining skin with plaste or mild dressing to prevent excoriation. It is gene rally preferred for forming issues; and the most con venient mode of employing it for that purpose is t apply to the skin one or more layers of linen sprea with adhesive plaster, having a circular opening i the centre, corresponding to the intended size of th issue, and then to rub upon the skin, within th opening, a piece of the caustic previously moistene at one end. The application is to be continued til the life of the part is destroyed, when the causti should be carefully washed off. Poultices are afterwards to be applied till the separation of the escha is effected. As a general rule, in using this caustic owing to its diffluent tendency, the erosion of th sound integument ought to occupy a narrower com pass than that of the eschar about to be formed.

The so-called Vienna caustic is composed of fiv parts of hydrate of potash and six parts of quick lime. The mixture is kept in a phial. When in tended for use it is made into a paste with spirit o wine. In this state it determines a speedy disor ganization of the part, which is afterwards to b washed with water and vinegar. If a very energeti effect is desired, it may be allowed to remain on fo twenty minutes. The advantage of this compound is, that the quicklime serves to absorb any redun dant moisture, and thus set bounds to the escharotic action.

Nitrate of silver, or lunar caustic, is in the hands of every surgeon. On a granulating surface it produces a whitish film; but if applied more freely a kind of mummy-like transformation of the anima textures. Its operation does not extend to any con siderable depth; and the separation of the eschar does not take place for several days, owing to the small amount of re-action in the adjunct parts. It is sometimes used to form an issue. For this purpose a piece of plaster, with a flap cut in the centre, is placed on the skin, within which, after previous moistening, a fragment of caustic the size of a pea is inserted, and secured by means of square adhesive strip, compress, and roller.

II. THE ACTUAL CAUTERY.

The agency of heat at various degrees of temperature is employed in the treatment of disease. Thus, hot water, steam, heated air, fire itself, and ignited iron, have been severally resorted to by surgeons. While disposed to censure much that has been recommended under this head, such as the practice of injecting boiling water into sinuous canals, and that of indiscriminately searing diseased joints, I strongly advocate the utility of the actual cautery in particular instances. Thus, in perilous hæmorrhage within cavities, as for example in the throat and dental alveoli, it can seldom be dispensed with; as also in bleeding fungus, hospital gangrene, carbuncle, organic defects and palsy of the encephalon and spinal marrow; it is inadmissible, on the other hand, in nævus or erectile tumour, or the bite of a rabid animal, from the risk of the eschar keeping the poison pent up in the system. Burning ought never to be employed with children, because it is most dangerous, often more so indeed than the malady, and prone to induce trismus and other nervous affections. It is well known, that many a child has died from a scald of the hand.

Cauteries are of different dimensions. Thus, there are the small, the middling, and the large. The smallest are not bigger than a lentil; the largest have a head weighing from half a pound to a pound. The instrument consists of three portions; the head, or button, which is the essential, the stem, and the wooden handle. The first is variously fashioned, but the two last are tolerably uniform as regards shape; although it is obvious, that the iron employed for searing a carious tooth, must have a smaller stem and handle than one for cauterizing the haunch. Among the divers forms may be mentioned, that of the lentil, the olive, the disc; and lastly, the forked, tubular, annular, conical, cylindrical, and prismatic irons.

The surgeon, before applying a large-sized cautery, ought either to administer some anæsthetic agent, or else have plenty of assistants at hand to control the struggles of the patient; otherwise unintentional injury may be done.

The patient is couched upon an operating table or a sofa. The irons, heated to incandescence in an adjoining apartment, are to be handed to the operator, out of view of the patient. For the purpose of checking hæmorrhage, the button ought to be rounded or ovoid, of a bulk commensurate with the surface to be touched, the neighbouring parts being protected by dry or moist folds of linen. If the mouth be the seat of the bleeding, the individual should sit up, and before each introduction of the cautery, a large dossil of lint, held in forceps, is to be passed round, the lips and cheeks being shielded as above stated. Here, however, folds of dry linen are preferable to wet, as tending to conduct the heat less rapidly. If it be an extensive bleeding fungus, the iron must be proportionately large, thick, and slightly rounded, the patient reclining, and the contiguous surface strewed with pulled lint to absorb the blood.

For the production of a deep issue, a spherical or bung-shaped iron is most eligible. Hæmorrhage from the anus is not to be arrested by searing, but by plugging, which is exempt from danger. In cauterization of cancer of the rectum, the anal orifice must be slit before and behind, and a plum-shaped iron introduced along a horn speculum; a larger speculum of the same material is employed for the vagina. Tubular shields, made of tin plate, are hazardous because the least touch of the hot ron causes the tin to melt, run into, and scath he mucous membrane. In cauterizing an articulation, the streaks are to be made longwise, of from a third of a span to a span in extent, all the way round, with a prismatical iron. If it be the houlder or knee-joint, the patient is to lie on his is back; if the hip joint, upon his belly. The ron is passed equally along with a steady hand. The anterior part of its extremity ought to be omewhat turned up, to prevent its hooking in the lesh. If moved too rapidly it does not penetrate ufficiently; too slowly, it is apt to press injuriously, upture the skin, and cause a gaping wound. This, fat persons, is apt to be followed by protrusion of the subcutaneous fat, and in lean by lamage to the fibrous textures underneath. From wo to six streaks generally suffice, and for every wo a fresh iron is required.

After the operation the patient is put into bed, nd the burnt surfaces covered with cotton wadding, is the best means of allaying the pain.

The cauterized streaks present a brown, black, and yellowish-grey aspect, surrounded by a red ireola. The resulting eschars are not usually detached before some weeks have elapsed. Should he suppuration be scanty, stimulant dressings are o be applied; should, on the other hand, the granulations be too luxuriant, shreds of twilled calico, soaked in solution of nitrate of silver.

The application of the hot iron, *par distance*, or its fleeting transport from one point to another, *cauterization transcourante*, is of very little use.

MOXA.

Moxa signifies a burning cylinder. It is of exotic origin, having been first introduced from

(a) *London Medical Gazette*, Vol. XIX., p. 328.

Asia into Europe, and of very ancient date. It has the form of a candle end, and varies in thickness from that of a small wax, to that of a carriage light. It ought to burn equably from above downwards, that the glowing surface may advance steadily towards the skin, and leave behind no cinder.

Moxa is composed of some combustible substance—charcoal-pastille, touchwood, the pith of the Helianthus, amadou, and cotton wool, have each been used for the purpose. The last is to be preferred. A moxa prepared with cotton wool, previously imbued with solution of nitre, and dried, burns quite away. A simple cylinder of raw cotton, loosely packed, will suffice, but, when once kindled, requires a stream of air directed upon it to maintain combustion. Pouteau fashioned his moxa by sewing up a round roll of cotton wool in linen, so as to resemble a thin rouleau, and cut it into pieces of a suitable length. For keeping it in its proper position, Larrey contrived a small brass ring-trivet, with wooden feet and handle. But nothing answers better for fixing the cylinder, and also protecting the surrounding integument, than a bit of moist pasteboard, with a hole cut in the centre to the right size. Some authors recommend the employment of a blow-pipe or bellows for insufflation; but their action is too powerful, and the moxa never burns so uniformly as when merely blown by the mouth.

In burning with moxa, the patient is to lie on a sofa with the part placed horizontally, to prevent the cylinder falling off. The moxa, fixed in its pasteboard disc, is then applied to the skin, and retained *in situ* by an assistant, while the patient is supported by two other assistants (unless under anæsthetic influence). The operator kindles it at the top, and continues to blow gently until all is consumed. The scar, which has the appearance of whitish-grey leather, encircled with a reddish zone, is then cleaned with a dossil of picked cotton wool. Cotton wadding furnishes the most comfortable dressing. Neither cold water nor oil should be applied; the latter greatly aggravates the pain. Several moxas may be used in succession, according to the exigency of the case; as, for example, over the surface of an extensive chronic abscess. As a topical remedy, moxa is superior to the actual cautery, both in the above-named instance of chronic abscess, and likewise in that of paralysis, because it exercises a particularly stimulating effect on the nervous system.

The separation of the eschar is somewhat tardy, depending partly on the constitution of the patient, the size of the moxa, and the part implicated. Here emollient poultices are beneficial. The raw surface is either to be healed up with bland dressing, or else treated as an artificial sore, and secretion encouraged by the aid of irritant unguents or issue peas.

Cauterization with potassium, phosphorus, or burning-glasses, is not commendable.

REVIEWS.

Oratio ex Harveii, Instituto in Ædibus Collegii Regalis Medicorum, habita Pridie Calend. Julii, A. D. 1849. A JOHANNE CARR BADELEY, M.D., Cantab. Coll. Reg. Med. Londinensis Socio.

The name of Harvey is associated with much that is interesting to the English Medical Profession. Born in an age in which science had only just commenced her struggles for freedom after a bondage of many centuries, it was his privilege to assist in effecting her emancipation. Like many great men who had preceded him, he lived in advance of his own age, and consequently his brilliant discoveries only drew down upon him the indignation of the "vulgar herd," incapable of appreciating the greatness of the man. Harvey knew the value of his own discoveries, and the waywardness of public opinion; and hence he was supported by the conviction, that if his contemporaries failed to do him justice, posterity would. The instances are but comparatively few in which Nature and Providence unite to form the truly great and extensively useful. In Harvey we have one of those instances. Nature had endowed him with an exalted intellect, and Providence had blessed him with an ample patrimony: he freely consecrated both to the service of mankind. Like a true philanthropist, persecution did not make him swerve from his benevolent work; and the very Oration which bears his name, and is annually delivered at the College of Physicians, is a perpetual memorial of his disinterested love for the Profession of which he was so honourable a member.

It is a singular circumstance, that the College which Linacre founded for the promotion of medical science, and Harvey endowed, should, in its infancy, have become a persecutor of those whom it ought to have protected. That the establishment of this Institution was imperatively called for by the state of the times, none can reasonably doubt. "Enim," as Dr. Badeley appropriately remarks at the commencement of his oration, "Eo sæculo, et Monachi et Empirici medendi artem latè exercuerunt; et Episcoporum erat hos ψευδο ιατρους perscrutari." Hence Linacre wisely judged, that taking from the Bishops the power of licensing Physicians, and conferring it upon a medical Corporation, would do much to keep down ψευδο ιατρους. Would that this College had been all that its founder desired it should be! Harvey discovered to his sorrow, that Colleges established for the express purpose of furthering science often but imperfectly accomplish this end. Yet his magnanimity was such, that forgetting his own wrongs, and hoping the College might eventually become a nursing mother of science, liberally endowed that College out of his own patrimony. Dr. Badeley adverts to Harvey's labours, persecutions, and fortitude, in the following manner:—"Altior rerum ordo cum illo natus est, qui post tot annos in medicinà promovendà elapsos, fontem reclusit è quo aureum scientiæ flumen patriam populumque ditavit! Nimirùm ille qui per corpus sanguinis circuitum detexit, ad morbos corporis sublevandos novam et adhuc inculcatam semitam nobis patefecit! Ecquis enim vel febrem, vel phlogosin, nisi empiricè, hâc absque notitiâ, tractare potuit? Ecquis de cordis motu, circulationis nescius, judicare ausus est? Hoc omne detexit Harveius—hoc omne experimentis probatum, et oculis aliorum fidelibus eo tempore honestè subjecit, et natis 'natorum, et qui nascentur ab illis' in lucrum tradidit! Hinc vero ortus est improbus et ineptus clamor! Invidiæ veneno afflati non deerant, qui palmam Harveio debitam vel sibimet ipsis arrogare, vel aliis coronam eam triumphalem imponere, inhonestè certabant—inter quos Riolanus, et Parisanus, et Servetus, et Columbus, et Cæsalpinus, cum multis aliis enumerandi. Qualiter tamen cursum suum ordinatum Luna tenet, canesque qui vano se latratu lacessunt, cum fastu aspernatur; 'Pergant,' respondit Harveius, 'pergant maledicendo; donec ipsos, si non pudet, pigeat tædeatque!' Contra enim vero veritatem quàm futilis contentio! 'Merses profundo, pulchrior evenit' et palmam quam meruit, postremo Harveius, et in æternum, credite, laturus est."

In this Oration, Dr. Badeley pays a just tribute to the memory of many deceased Physicians, and stirs up his young brethren to follow in the footsteps of those who were "burning and shining lights" in their generation. Towards the close of his discourse, he adverts in terms of commendation to those eminent Practitioners, who are now in various departments of their Profession attaining a high position. We wonder, however, what the stethoscopists will think of the manner in which the Orator speaks of their favourite instrument "qui Stethoscopi nomine *gaudet*?" We think Dr. Badeley has given them a gentle rap, cum "Caduceo Apollineo," and we hope for this the sons of Apollo will not do to the orator as the god did to the fiddler for challenging him at music—skin him alive!

The Oration, which exhibits the Author as an accomplished scholar, finishes with a tribute of praise to the College, for the spirit of liberality it now manifests:—"Latius hujus templi pandantur portæ, adeo ut quæcunque sit Alma Mater, sive sit Oxoniensis, sive Cantabrigiensis, sive Londinensis, sive vel Edinensis vel Eblanensis, filii cujusque, (sint modo digni,) nos inter recipiantur."

The Three Kinds of Cod Liver Oil, comparatively considered with reference to their Chemical and Therapeutic Properties. By L. J. DE JONGH, M.D., of the Hague. Translated from the German. With an Appendix and Cases. By EDWARD CAREY, M.D. 8vo. Pp. 174. 1849.

The remedial powers of cod liver oil, although they have been greatly exaggerated, are still indisputable, yet many have been disappointed in the results they might reasonably have expected from its employment. Their failure may have been caused either by the cases chosen for its exhibition having been such as were not suited for the remedy, by the use of spurious oil, or by the various specimens of genuine cod liver oil, differing in their therapeutic efficiency. The Work of which we are about to give our readers some account, is chiefly devoted to a consideration of the comparative value of the three kinds of oil ordinarily found in the market, viz., the pale, light-brown, and brown. It contains a careful inquiry into the species of fish which yield these oils, the mode of their preparation, an elaborate chemical analysis of each kind, and an examination of their therapeutic action. Its accuracy has been acknowledged, and its importance appreciated in Germany, and the Profession of this country are indebted to Dr. Carey for placing it within their reach by his careful translation.

Dr. de Jongh informs us that cod-liver oil is prepared from almost all the species of the genus gadus. The Bergen oil, which alone is officinal in Germany, is the produce of three species of the above genus. The physical and chemical characters of the oil depend on the mode of preparation, and not on the species from which it is obtained. Dr. de Jongh took the greatest pains to ascertain the truth of this assertion. From the trustworthy accounts of some wholesale merchants, he learned the following particulars:—

"The pale oil is obtained by the spontaneous flow from the putrescent livers; the brown by the boiling or roasting of the livers, from which, at an ordinary temperature, nothing is obtained. The light brown oil is a pale, clear oil, which either has stood long on the livers, or has got old in the warehouses."

The physical characters of the brown oil, which, according to our Author's own researches, exhibits more powerful therapeutic effects than the pale or light brown, are thus detailed:—

"Colour, dark brown, by a reflected light green, in small portions transparent; a peculiar, disagreeable, and empyreumatic smell; bitter and empyreumatic taste, strongly irritating the fauces; slightly acid with litmus paper. While the pale oil is described to be of a gold yellow colour; a peculiar, but not disagreeable smell; a fishy, not bitter, slightly acid, taste. The pale brown oil possesses physical characters intermediate between the two former."

The fact of a considerable quantity of spurious oil having found its way into the market, rendered it very desirable that some certain test of the genuine oil should be discovered. The presence of iodine is such a test. The Practitioner may reject as spurious all oil which contains no trace of iodine. This element may be found, although in different proportions, in the three varieties of the oil. The light brown contains the largest quantity, viz., 0·0406 per cent.; the brown the least, 0·0295 per cent. only. The iodine is never free in the oil, nor in the form of iodide of sodium, but is in every case found to be in organic combination with fatty substance.

The best method of discovering the existence of iodine is thus given:—

"The oil is saponified with pure potash in excess; the soap formed is carbonized in a platinum crucible, and then saturated with carbonate of ammonia, and dissolved in water or alcohol. In the latter case a nearly pure iodide of potassium is obtained."

The iodine can of course be then readily detected by the blue colour, produced by the addition of starch and sulphuric acid. The chemical differences between the pale and brown oils may be generally stated thus,—the pale oil contains more oleic acid, but less of all the other organic constituent, especially of the biliary matters than the brown; while the latter contains less of the inorganic constituents than the former.

The historical notices are full. We learn that Eng-

land has the honour of having been the first to introduce into use cod liver oil as a medical agent. It was prescribed in chronic rheumatism by Dr. Perceval in 1771, and was subsequently used in the Infirmary at Manchester by Ray and Bardsley. In 1822, Schenk tried it in rickets and other scrofulous affections. From that time the drug has continued to rise in the estimation of the Profession. However, it did not come into general use for some years. In 1841, Dr. Hughes Bennett published an Essay on its therapeutic powers. The favourable impression produced by that Treatise induced Mr. Chalk, then of the Margate Infirmary for scrofulous and chronic affections, to use it extensively, and shortly after to publish a series of forty cases, in the majority of which it proved highly beneficial. From this time it has held a high place in the esteem of the Profession of this country.

It is unnecessary to lead our readers through Dr. de Jongh's account of the value of the oil as a means of cure in the different diseases for which it has been recommended, but there is one point to which we must allude, and that is, the great advantage which would be conferred on practical medicine by a careful analysis of two series of cases of phthisis, in which the oil had been administered on the one hand with advantage, and on the other with little or no benefit.

There cannot be a question, that under the term phthisis more than one disease has been confounded. That every case of chronic consolidation, with subsequent excavation of the apex of the lung, is not dependent on scrofula, and, therefore, phthisis and scrofula are not necessarily co-existent; or, in other words, phthisis, in the ordinary acceptation of the word, may occur where no scrofulous taint, hereditary or acquired, exists. (See some very able papers by Dr. Addison in Guy's Hospital Reports.) Sebastiani is quoted as saying, "I have found the cod liver oil to be most serviceable in cases of *hereditary* phthisis." As the iodine is found in somewhat larger proportion in the pale than in the brown oil, and yet the latter is the most efficacious, Dr. de Jongh supposes that the therapeutic powers of the oil depends chiefly on the butyric acid it contains. That the iodine, although existing in such very small proportion, is really active, is proved by the fact, that it can be detected in the urine of persons taking cod liver oil.

To ascertain the comparative effects of the three oils, our Author proceeded thus:—To the first six cases that fell under his observation, which he thought suited for the exhibition of the remedy, he administered the brown oil; to the next six the light brown, and to a third series of six the pale. The result, which Dr. de Jongh has detailed at length, was, that the brown cod liver oil generally effected cures in half the time required by the pale or light brown oil.

But it is not easy to obtain *pure* cod oil. That which comes from Rouen and the coasts of Normandy, is obtained from the boiled livers of ray-fish, *R. bates* and *R. clavata*; a variety from Norway is procured from the roes and entrails of the gadus species boiled together; and some sent from Senegal to France is obtained by roasting the entrails of a species of a crab, *C. ruricola*. Under these circumstances, it is gratifying to know that a highly respectable English house, Messrs. Langton Brothers and Scott, of Upper Thames-street, have established a manufacture of cod oil at Newfoundland, under the management of Mr. Fox, of Scarborough, well known as the maker of some of the best that has come to market. We have received a specimen of their oil; it is remarkably pure, and we strongly recommend it to the consideration of our readers.

ON THE MANUFACTURE OF SUGAR.

[To the Editor of the Medical Times.]

SIR,—In your recent Review of my Book on the Sugar Manufacture, you speak of the very natural prejudice against the use of a salt of lead. Permit me, therefore, to draw your attention to the following facts.

The acetates of lead are, and long have been, extensively employed in the sugar manufacture—some operators attempting to remove any excess of that salt which might exist, by the careful addition of dilute sulphuric acid—whilst others, and by far the greater portion, *never attempted the removal of any such excess at all*, merely relying on what I would term a timid primary apportionment. One foreign refiner candidly owned to me that he used the acetate of lead habitually for sugar of a certain class, and employed *no means* for separating any excess of acetate which might exist.

I asked him whether his products would not, on examination, yield evidences of the presence of lead. He said, "Most likely;" but that "he guarded against this in some respect by incorporating results made by means of lead, with others made without."

Even many of such manufacturers as never employ this agent, nevertheless impart a considerable amount of lead in a soluble, and therefore poisonous, condition to their resulting staple, owing to the leaden tanks which are employed by them as vessels of capacity. I have now in my possession a sample of sugar solution, taken at random from one of the largest refiners in London. This samples is largely contaminated with lead from the latter cause, as I demonstrated to the refiner in his own manufactory.

The process introduced by me is one emphatically for rendering lead harmless, which it does by generating the sulphite of the oxide of that metal. This sulphite is subsequently filtered away with the greatest ease. Should, however, a portion come through the filter, no harm can result, as the sulphite of lead is not a poisonous agent.

Indeed, the process has been carried on now for a considerable time in a refinery on the large scale, and in Cuba it is now conducted by slaves, in both cases with the most complete success. I have a sample of sugar from this latter source, sent home at random. It is totally free from lead in any state of combination. With these facts before me, I need hardly say I require no authoritative opinions for my own satisfaction; nevertheless, others interested with me in the extension of this process have obtained the testimony of some of the leading chemists of Britain, as you may see by the enclosed document, (a) which you may publish if you think fit.

I have the honour to be, Sir,
Your obedient servant,
JOHN SCOFFERN.

30, Essex-street, Strand.

CHOLERA IN DUMFRIES.

[To the Editor of the Medical Times.]

SIR,—On my return from the Continent, about ten days since, my attention was directed to a communication from Dr. Grieve, published in your Journal of May 26th, 1849, styled "Practical Observations on Epidemic Cholera, as it appeared in Dumfries during 1832 and 1848." Now, being engaged, through its late visitation (1848) as house-surgeon to the Dumfries Infirmary, to which many of those observations bear reference, I feel called upon to correct an error made (no doubt unwittingly) by my respected friend, regarding the propagation of cholera by contagion, a point on which so many are at variance at present, and in a Journal of such extensive circulation, and so highly valued, as the *Medical Times*, a letter of the kind must influence many in forming their opinions. On looking over the Hospital Reports for 1832, when no persons affected with the epidemic obtained admission, I find there was not one in-patient in which even the premonitory symptoms presented themselves. In 1848, on the other hand, on the admission of the fourth case, our cholera nurse was seized with and fell a victim to the disease. With the exception of one male nurse, (Hugh Geddes,) all those belonging to the Infirmary, and all the patients, except two surgical, suffered more or less severely from premonitory symptoms, *i. e.* diarrhœa and sometimes cramps. Of the two who escaped, one (Charles Carlon) suffered from scrofulous degeneration of the tarsus, from which there were numerous sinuses discharging profusely. The other, (John Ker,) in connexion with scrofulous knee-joint, had also numerous abscesses draining the system at the time of the epidemic.

Of the medical men employed in Dumfries, four were attacked by and went through all the stages of cholera, few of the others escaping some of its symptoms. The cases which Dr. Grieve adduced, where persons had slept with impunity in the bed of a cholera patient, do not prove the non-contagious properties of the disease, but merely, that the persons so placed were in a state of mind capable of resisting the poison.

In connexion with the electric shock experienced from contact with a cholera patient, Dr. Grieve, without detracting at all from the merits of his paper, might have mentioned my name as the first who called his attention to the subject. This thrilling sensation, resembling that from an electric machine, is more powerful along the course of large arteries (radial pulse) and in the early stage of collapse, at which time, also, the earthy fetor is more perceptible. To these particulars I drew the attention of some physicians and students in the Paris Hospitals, who were not previously aware of its existence. Allow me to mention one thing further in reference to that very distressing symptom, *i. e.* hiccough, which almost always occurs in the last stage of collapse, either immediately preceding dissolution or the consecutive fever; the only remedy I have known perfectly successful in hospital practice was sinapism or blister to the nape.

Trusting these few remarks may be taken as communicated—in friendly part,

I am, your most obedient,
JAMES SMYTH.

Dromore House, Coleraine, Aug. 16, 1849.

[We beg to assure Mr. Smyth that the "thrilling sensation" to which he alludes was well known to the numerous body of Medical men congregated in Dumfries in 1832, and among whom was Dr. Grieve. —ED.]

(a) Dr. Scoffern has placed in our hands certificates from some of the first chemists in Great Britain, with which, however, it is unnecessary to trouble our readers.—ED.

GLYCERINE IN DEAFNESS.

[To the Editor of the Medical Times.]

SIR,—In your Report of the proceedings of the Provincial Medical Association at Worcester, occurs an error which I am most anxious should be corrected. To me is ascribed the introduction of the oil of glycerine as a remedy for deafness!

I hope I may be never guilty of anything half so absurd as to recommend this or any other lubricating fluid to be applied to the outer passages of the ear, as a curative agent in deafness. For years past I have denounced, in my writings, all such antiquated notions of treatment, which ought not to be talked of in the nineteenth century, and in the present state of our knowledge of diseases of the ear. The mistake has arisen, no doubt, from the parties who really proposed the use of glycerine, having so mixed up my new treatment of diseased tympana by the introduction of a piece of cotton, moistened in distilled water in a peculiar manner and to a particular spot in the passage of the ear, with their new remedy, that, unfortunately, it is difficult for anybody, unacquainted with the facts, to separate the metal from the dross.

Glycerine was proposed to me by Mr. Barrett, of Bath, on the first publication of my papers in the *Lancet* twelve months ago, as a substitute for water in moistening the cotton-wool, and rejected for the same reasons I had rejected all other oily fluids. As a curative agent, *per se*, the common sense of the Profession will rise up against it and reject it.

I am not aware that any account of the singular discovery it has been my good fortune to make has yet appeared in the pages of the *Medical Times*. I hope to have the pleasure of sending you a paper on the subject for insertion in an early Number of your Journal.

Begging that this disclaimer may appear in your next Number,

I have the honour to be, Sir,
Your obedient servant,
JAMES YEARSLEY.

15, Savile-row, Aug. 20, 1849.

THE CONVENTION OF POOR-LAW MEDICAL OFFICERS AND THE MEDICAL CORPORATIONS.

[To the Editor of the Medical Times.]

4, Hanover-square, Aug. 21, 1849.

SIR,—I am desired, by the Committee, to request the favour of your publishing, in the next Number of the *Medical Times*, the following copy of a letter addressed to the Royal Colleges of Physicians and Surgeons, and the Apothecaries Society, together with the answers received from those bodies in reply to that communication.

I am, Sir, your most obedient servant,
CHARLES F. J. LORD, Hon. Sec.

(Copy.)
Committee of Poor-law Medical Officers,
4, Hanover-square, July 27th, 1849.

Gentlemen,—Remembering the courteous recep-

tion given last year by you to the Deputation, and the assurance of sympathy and promises of co-operation with which they were favoured, the Committee feel that they would be blameable if they did not now point out the manner in which your influence may be beneficially exercised in their behalf.

A second Deputation from the Committee having been received recently by the President of the Poor-law Board, the Committee are of opinion, that the general interests of the Union Surgeons may be advanced by your College memorializing the Poor-law Board, and petitioning both Houses of Parliament in favour of an improved system of Medical relief to the sick poor.

The plan submitted last year as suggestions to Sir George Grey, is by no means binding in detail, although the three grand features of it are still held by the Committee to be as essential to the best interests of the sick poor as they are to the just position and equitable though modest requital of the Poor-law Medical Officers.

These, as set forth in a recent Petition to Parliament, adopted and numerously signed, at a large meeting presided over by Lord Ashley, consist—

1st. In permanence of appointment during the capability and good conduct of the Medical Officer.

2nd. In payment proportioned to the extent and character of his duties.

3rd. In responsibility to Professional authority through a Medical Board.

The Committee hereby beg the favour of your applying to the Poor-law Board and to Parliament in favour of these principles, as a step conducive to the interests of the sick poor, of the Profession generally, (the Union Medical Officers more especially,) and of society at large.

We have the honour to be, Gentlemen,
Yours very respectfully,
THOMAS HODGKIN, M.D., Chairman.
CHARLES F. J. LORD, Hon Sec.
To the President and Censors of the
Royal College of Physicians.

(Copy.)

College of Physicians, July 3rd, 1849.

Sir,—Your letter of the 27th ult., addressed to the President and Censors of the Royal College of Physicians, has been laid before their Board, and in reply to it, I am directed to state to you, that their Board has already petitioned the House of Commons in favour of the suggestions made at the meeting, which was presided over by Lord Ashley.

I have the honour to be, Sir,
Yours very respectfully,
FRANCIS HAWKINS, M.D., Registrar.
To the Chairman of the Committee of
Poor-law Medical Officers.

Royal College of Surgeons of England,
3rd of August, 1849.

Sir,—I am desired by the Council of this College to express their unchanged desire to promote the interests of the Poor-law Medical Officers.

At the same time, the Council feel considerable difficulty in complying with the wishes of the Convention, that this College should memorialise the Poor-law Board, and petition both Houses of Parliament; and this, in consequence of the probability, should former precedents be adopted, of the case of the Poor-law Medical Officers being referred to this College for their opinion.

The Convention ... be pleased, also, to bear in mind, that the Council of this College, in making any such representation to the Poor-law Board and to the Legislature, as might effectually support the claims of the Union Surgeons, would be expected to found their application, not on evidence furnished by the parties aggrieved, which would be considered an *ex-parte* statement, but on the actual knowledge by the Council of facts, which they, unfortunately, have not the means of ascertaining.

The Council are prepared, indeed, to view favourably the adoption of the three grand features of the plan submitted to Secretary Sir George Grey, viz.;—

1st. In permanence of appointment during the capability and good conduct of the Medical Officer.

2nd. In payment proportioned to the extent and character of his duties.

3rd. In responsibility to professional authority through a Medical Board.

The Council beg to remark, however, with respect to the third proposal, that they are not prepared to recommend a "Medical Board," until informed of the proposed constitution thereof.

And that, on the whole, they believe the most satisfactory arrangement to all parties would be, the appointment of a Medical Inspector in each district, under the charge of an Assistant Poor-law Commissioner.

I have the honour to be, Sir,
Your most obedient servant,
EDMUND BELFOUR, Secretary.
To Dr. Hodgkin,
Chairman of Committee of Poor-law Medical Officers.

Apothecaries' Hall, 13th July, 1849.

Sir,—I am directed, by the Master and Wardens of the Society of Apothecaries, to acknowledge the receipt of your letter of the 27th ultimo, which they have only to-day had an opportunity of laying before the Committee of the Society. The Master and Wardens will thank you to favour them with a copy of the Petition to Parliament to which you refer in your letter, and with a statement of any plan which the Convention may have matured, with the view of carrying out the principles laid down in that Petition into practical operation.

With this information before them, the Society will be happy to take the subject into their further consideration.

Will you, at the same time, be good enough to state what communication has taken place between the Convention and the other Medical Corporations, as it is obviously desirable that the Medical Corporations should act in harmony on this subject.

I am, Sir, your most obedient Servant,
ROBERT B. UPTON,
Clerk to the Society.
C. F. J. Lord, Esq., Honorary Secretary.
Convention of Poor-law Medical Officers,
4, Hanover-square.

THE LATE SIR CHARLES SCUDAMORE.

Sir Charles Scudamore was born at Wye, in Kent, in 1779, and married, in 1812, Georgina, second daughter of Robert Johnson, Esq., of Finchley, Middlesex.

The family of Scudamore is of great antiquity, and claims descent, through the Kentish branch, with the ancient house of Holm Lacy, in Herefordshire.

The subject of our present Memoir received his early education at Wye College, under the Rev. Philip Parsons, and there distinguished himself, by his assiduity in the study of the Classics, English Literature, and the Belles Lettres. He afterwards commenced his medical studies, under the tuition of his father, a highly-esteemed Medical Practitioner at Wye, and an elegant scholar. Sir Charles's energies were, in due time, transferred to a more extensive field; and the area of the Borough Hospitals being the chosen theatre, and Cline, Saunders, Babington, Cooper, and other distinguished men, his teachers, his thirst for medical knowledge increased, and his acquirements became enlarged. After remaining three years at Guy's and St. Thomas's Hospitals, where he gained the esteem of his teachers, he established himself at Highgate, as a Surgeon, which step he considered only as a preliminary one to the higher views on which, from the commencement of his medical studies, his mind had been fixed. Remaining a few years at Highgate, he fulfilled his desire of acquiring professional experience, and proceeding to Edinburgh, devoted himself to his studies with intense ardour, and became noticed by the most eminent men there. At Glasgow, he took his degree, and wrote an elaborate Thesis on Gout, which he dedicated to Dr. Babington, of London, and Dr. Browne, the celebrated Professor of Moral Philosophy in Edinburgh. Dr. Scudamore then returned to London to practice as a Physician, residing first in Holles-street, and shortly after in Wimpole street, where he remained until his death. Soon after coming to London, he published an Analysis of the Mineral Waters of Tunbridge Wells, in which he was assisted by his friend, Mr. John George Children; also, the first edition of his work on Gout, which he dedicated to Dr. Matthew Baillie. This work quickly gained for its author a high reputation, was eagerly sought for, and passed through four editions in the course of six years. In the next five years, his practice became most brilliant and extensive; his patients (from the nature of the disease in which he had become so eminent) were of the very highest class, and amongst them might be enumerated a large number of the nobility and leading men of the day. He was appointed Physician in Ordinary to His Royal Highness Prince Leopold of Saxe Coburg, in 1820, and to the Duke of Northumberland, when Lord-Lieutenant of Ireland, from whom he received the honour of knighthood. He was also made Honorary Member of Trinity College, Dublin; of the Imperial College of Vienna; of the Medical Society of Paris; Fellow of the Royal Society of London, &c.

Among numerous works on different diseases, published by Sir Charles, may be mentioned, "A Treatise on the Nature and Cure of Rheumatism and Tic Doloureux;" "An Essay on the Blood," containing many original observations, and displaying much physiological and scientific research;" "Observations on the Stethoscope and Percussion," published after studying the subject in Paris under Laennec; "An Analysis of all the important Mineral Springs in England;" "A Treatise on the Mineral Waters and Tepid Springs of Buxton;" in which last works he was assisted by Mr. Garden (the well-known operative chemist of Oxford-street, London); and two short treatises, containing the result of his extensive experience in gout, and on the use and abuse of colchicum in the treatment of that disease. His later works were on the use of the inhalation of iodine and conium in phthisis, and an account of a medical visit to Graffenberg, made in the year 1843, for the purpose of investigating the merits of the water-cure treatment. The last contribution to Medical Science, published by him in 1847, was a work on pulmonary consumption.

Sir Charles was attacked with spasmodic asthma in January last, and more recently suffered from granular disease of the kidneys and valvular disease of the heart, from which latter affection he died suddenly on the 4th instant, much regretted and beloved by a numerous circle of friends.

BENEVOLENT FUND OF THE PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION.

We have great pleasure in presenting to our readers the following extract from the "Report" of the Benevolent Fund of the Provincial Medical and Surgical Association for the year 1849. It was our intention to have added a few lines of commendation; but the excellent "Appeal" by Mr. Newnham which precedes it, has rendered that unnecessary. Our earnest wishes are for its success.

"APPEAL ON BEHALF OF THE MEDICAL BENEVOLENT FUND, ESTABLISHED 1836.

"'To do good and to distribute, forget not, for with such sacrifices God is well pleased.—Heb. xiii. 6.'

"The Medical Benevolent Fund was instituted in the year 1836, for the purpose of affording relief to Medical Men under circumstances of temporary distress, (from sickness and misfortune,—or when incapacitated from active exertion by old age; and it embraces also the widows and orphans of such regularly educated men, when they have been left in situations of great poverty and indigence.

"This fund requires no other test or qualification for an admission to its relief, than the facts, that the party has been regularly educated,—that he is in indigent circumstances,—and that his poverty has been the result of misfortune,—not of misconduct. In these respects, it differs from other funds which require the qualification of pecuniary membership for a given time, and a residence within a prescribed district; and it is especially devoted to a species of misery, which cannot be relieved by the local funds; so that wherever there exists sickness and sorrow to be soothed—or hunger and destitution to be alleviated, there is ever at hand, the peculiar agency of the Benevolent Fund.

"For thirteen years, this Institution has pursued its unwearied course of benevolence,—and during that period, has relieved a mass of misery altogether incalculable. In the last twelve months it has extended its aid to 34 cases of urgent distress, comprehending 14 Practitioners under varied forms of suffering. *One* of these was supported during the last months of a pitiable existence; *six* were relieved from present emergencies; and *seven* were re-instated in their professional employment. Under this class, should be added 38 individuals, comprising the wives and children of the above-named Practitioners. Relief has also been given to 16 widows and 28

orphans,—as well as to 10 adult orphans in the most straitened circumstances; and one wife and five children, have been supported for six months by by a weekly allowance, while deprived legally of the husband's assistance. These several classes comprise 120 individuals who have been relieved at a cost of about 470*l*.

"This Institution is composed of two branches, one, of subscriptions thus employed for the relief of present distress; and the other of donations, which are directed to accumulate till they reach 2,000*l*.; after which the accruing *income* may be applied in the form of annuity as may be required, or of loan for twelve months without interest, upon approved security. During the past year, more especially, the Committee have felt the cruel want of this fund, which at present reaches only about 1,550*l*.; and they believe that the time has arrived, when by a strenuous effort of themselves and their friends, they may be enabled to realize the 2,000*l*., the great object of their hopes, and to bring at once into operation this most important branch of their Institution. For this purpose they pledge their own exertions; and they appeal to all their subscribers and friends to aid them in this good work. They are, however, feelingly alive to the fact, that they would be seriously injured by the withdrawal of any subscriptions in order to convert them into donations; but they are assured, that the good sense and kind feelings of their friends will induce them not to diminish their own annual contributions; but, on the contrary, to canvass their friends for fresh subscriptions or donations, as may be most agreeable to them, and they especially ask for the agency and zeal, and untiring energy of those ladies who have been so justly described as 'ministering angels,' where pain, and sickness, and sorrow, and want, and misery, hold their tyrannous empire.

"It would doubtless aid the cause of the institution to give the details of a few of the harrowing cases relieved. But we dare not draw aside the veil of that 'sacred misery' which courts the sheltering retirement of obscurity, and shrinks from the glare of observation; we may not lay open to the common gaze the agonies of the riven bosom—nor the penury and starvation of the solitary garret—nor the dreariness of that widowed heart, which contemplates with anguish inexpressible the innocent faces of her thoughtless children, as yet all unconscious of the asperities of a selfish world.

"Finally, this appeal is made to all,—to those who have little, that they may give of that little, and to those who are blessed with the stewardship of this world's goods; and both are most earnestly invited to provide for the distresses of the indigent and the suffering; and thus to be laying up for themselves 'treasures in heaven where neither rust nor moth doth corrupt.' If you yourselves are free from the fear of want, Oh! listen to the cry of the destitute, that feeble cry which is so frequently stifled by feelings of a most time-honoured description, and which has so often to be revealed by the kind detective hand of some neighbour friend; Oh! listen to the feeble accents of grief unspeakable—'Oh! give relief, and heaven shall bless your store.'

"William Newnham,
Treasurer and Hon. Secretary."

"The following is a selection from cases relieved during the past year: and the financial statement for the year ending June 30th, 1849:—

"1. The widow and four orphan children of a respectable practitioner in Dorsetshire. This case had been materially aided by the neighbouring practitioners and friends; there were six children left, the eldest of which was accidentally drowned. One is provided for; the remainder were aided from your fund, and one of the boys has been since elected into the Orphan Asylum of Clapton.

"2. A widow and six children, with an income of only 0*l*. a year. These have been saved from ruin and absolute starvation during the year.

"3. A physician and his family, in a state of the utmost destitution. He himself had been once an active and a literary man, but was deprived of the means of earning his living by mental malady; his little all was spent, and although restored to health, his position was lost, and he was reduced to poverty in its most aggravated form.

"4. A practitioner, who was supported during the last months of a pitiable existence, and his destitute widow and orphans have been aided in their efforts to keep themselves from absolute want. This case had actually been relieved by a Board of Guardians.

"5. A Medical man, supported through the most trying circumstances, and enabled to restore himself to his position.

"6. A physician of eminent literary attainments, yet the child of misfortune, had been driven to attempt suicide by destitution of the most appalling character, absolutely saved from destruction.

"7. The family of a most respectable practitioner; the father died from acute malady; the son came home from the hospital, where he had been noticed as a young man of distinguished talent, to take his father's practice; he fell ill from fever, and was confined to his bed for three months; his sisters, who kept a school, lost that school from fear of fever; their distress was much aggravated. They were relieved and comforted.

"8. A young widow, whose husband's life had been cut short by fever caught in the discharge of his duties at Liverpool. She was aided to emigrate, in the hope of finding in another hemisphere employment in tuition for talents of no ordinary character.

"9 and 10. Physicians with families in a state of the most abject poverty. They were also aided to emigrate, and try their fortune in a new world."

FINANCIAL STATEMENT.

DONATION FUND.

Dr.	£	s.	d.
Invested in Bank stock prior to June 30th, 1848	1,183	9	8
Balance in Treasurer's hands ..	103	15	3
Interest for the year	59	10	0
Donations raised during the year ..	203	12	
	£1,550	7	6

Cr.	£.	s.	d.
Amount previously invested ..	1,183	9	6
Burchase of Bank stock ..	186	14	6
Balance in Treasurer's hands	180	3	6
	£1,550	7	6
Present amount of donation fund ..	£1,550	7	6

SUBSCRIPTION FUND.

Dr.	£	s.	d.
Balance July 1st, 1848	102	12	8
Subscriptions to June 30th, inclusive ..	416	15	2
	£519	7	10
Per contra	490	2	11
Balance	£29	4	11

Cr.	£	s.	d.
By benevolent aid	454	5	0
Envelopes, stamps, and carriage ..	17	0	6
Registration of letters	0	5	0
Nichols, for printing and stationery ..	13	3	2
Advertisements and expenses of Local Secretaries	4	9	3
	£490	2	11

Balance in hands of Treasurer, July 1st, 1849,—

	£		d.
Donation fund .	180	3	5
Subscription fund	29	4	11
	£209	8	5

MEDICAL NEWS.

Apothecaries' Hall.—Names of gentlemen who passed their examination in the science and practice of medicine, and received Certificates to practise, on Thursday, August 16, 1849:—William Clapham Cautley, Hedon, Hull; Thomas Brutton Kenderdine, Stafford; Thomas Edis; William Bellhouse Midwood, Manchester; John Adams Palin; Francis Henry Vertue.

Royal College of Surgeons.—The following gentlemen, having undergone the necessary examinations for the diploma, were admitted members of the College at the meeting of the Court of Examiners, on the 17th inst., being the last meeting of the Court this Session:—Messrs. John Abernethy Kingdon, Bank-buildings, City; Thomas Mills, Tipton, Staffordshire; Charles William Sadler Large, Camberwell; William Watts Thetford, Dublin; James Hannan, Limerick; Charles Caulfield Moore, Brimpsfield, Gloucestershire; and Bagley Thomas Hunter Bell, Pocklington, Yorkshire. At the same meeting of the Court, Mr. Thomas William Rimell passed his examination for naval surgeon; this gentleman had previously been admitted a member of the College, his diploma bearing date May 10, 1843.

Obituary.—On the 2nd inst., at Caen, Normandy, Henry Charles Duckle, of Pilham-hall, Gainsborough, Esq., M.D., in the 46th year of his age.—On the 18th inst., at 22, Charlotte-street, Leith, Walter Bruce, Esq., M.D.—On the 19th June, at Bagdad, John Ross, H.E.I.C.S., Surgeon to the British Residency there, eldest son of the late Dr. William Ross, Cambusmore, Sutherlandshire.

Death of Aston Key, Esq.—We have to announce the death of Mr. Aston Key, senior Surgeon to Guy's Hospital. Mr. Key was seized with cholera at his residence, St. Helen's-place, Bishopsgate, on Wednesday morning the 22nd inst., at half-past eleven, and died on Thursday at half-past seven a.m. He was in his usual good health on Wednesday morning; shortly after breakfast he appeared unwell; but, notwithstanding his indisposition, he saw and prescribed for his patients as usual, and in the evening was suffering severely from an attack of the prevailing epidemic, which terminated fatally on the following morning. Mr. Charles Aston Key was well known to the Profession as a scientific surgeon and successful practitioner. He was admitted a member of the Royal College of Surgeons on the 5th of January, 1821, and on the 30th of July, 1845, was elected by the "Fellows" a member of the Council of the College; he also held the appointment of Senior Surgeon to Guy's Hospital, and Surgeon in Ordinary to His Royal Highness Prince Albert. Mr. Key was the author of several contributions to the advancement of surgical science.

Mr. Henry James Johnson.—It is with sincere pleasure that we announce the convalescence of Mr. Henry James Johnson, the eldest son of the lamented Dr. James Johnson. We understand that he will resume his Professional labours next month.

University College.—Dr. W. B. Carpenter has been appointed Professor of Medical Jurisprudence.

Royal Dispensary for Diseases of the Ear, Dean-Street, Soho-square.—On Friday last the half-yearly meeting of this Institution took place at the Dispensary, Dr. Richards in the chair. The Secretary read a brief report of the proceedings, and the amount of subscriptions received during the last six months. The charity having been aided by the subscriptions of the Queen Dowager, the King of the Belgians, the Misses Tilney Long and others, at present the resources of the Dispensary were found inadequate to meet not only the claims upon the Charity, but also the increasing number of applicants for relief. During the last six months 458 fresh cases were entered on the books, and 88 discharged cured, many of which were of long standing. The Committee, therefore, appeal to the friends of the Institution and the benevolent, to render them assistance for carrying out these important objects. Votes of thanks were passed to Mr. Harvey, the Surgeon, and to Dr. Richards, for his kindness in taking the chair.

The Cholera.—Her Majesty's lighter Rochester sailed from Devonport last week with a large number of tents for the inhabitants of Megavissey, Cornwall, to live under, whilst their village is being cleansed; an application having been made by the Board of Health for that purpose, as the cholera is now raging to a great extent there.

The Apothecaries Company v. Morris.—An action has been brought by the above Company against Mr. Morris, qualified as a surgeon, for practising as an apothecary. Without calling witnesses, the defendant ultimately agreed to pay the penalty of 20*l*. and costs.

Public Health (Ireland) Bill.—A Bill for promoting the public health in Ireland, containing 155 clauses, has been printed for consideration during the recess. It was prepared and brought in by the Irish and English Secretaries of State.

The Profession.—From the list of gentlemen admitted members of the Royal College of Surgeons, as published in our last number, it will be perceived that no less than thirty-four qualified practitioners have been admitted in one week; including "Fellows," we have the list increased to forty-four; indeed, for some time past, the Board have had two

and three meetings a week for the examination of candidates. We may well exclaim, with the late Mr. Abernethy, who, on entering his lecture-room, was so astonished at the great number of students present as to express in audible terms, "What the Devil is to become of you all!" We may observe, *en passant*, that after the next examination for the "Fellowship," candidates will be examined as to their proficiency in Greek and Latin.

Medical Topography. — Dr. W. Freeman Daniell, the Author of some elaborate papers on the Bights of Benin and Biafra, has in the press a work on the Medical Topography and Native Diseases of the Gulf of Guinea; derived from the experience of some years' residence on the West Coast of Africa.

Currents of Electricity along the Wires of Telegraphs.—M. Baumgartner has been engaged in investigating the phenomena connected with the passage of natural currents of electricity along the wires of the electrical telegraphs, his investigations having been principally directed to the line of wires from Vienna and Gratz to Senmering. He proves that the needle rarely returns to its true zero: it is always subject to more or less deviation from the atmospheric current. The deviations are of two kinds:—one producing a deflexion of often 50°, the other varying from half a degree to 8°. The first are much less frequent; and they vary in direction and intensity in such a way that the law by which they are guided cannot be yet detected. The other, on the contrary, appears to obey a simple law: during the day it is from Vienna to the stations to the south of that city, and during the night in a contrary direction. The change in the direction appears to be accomplished after the rising and after the setting of the sun. When the air is dry and the sky serene the regularity of the current is very decided: it is not so uniform in cold and wet weather. M. de la Rive also has observed facts which completely accord with those of M. Baumgartner.—*Athenæum.*

Repulsive Force of Incandescent Surfaces.—M. P. H. Boutigny has lately proved that metals in a melted state have in a remarkable manner the repulsive force of incandescent surfaces, and that the tricks of fire-eaters and conjurors belong to a high class of physical facts. He made the following experiments:—He divided or cut with his hand a jet of melted metal of five centimetres, which escaped by the tap. Immediately he plunged the other hand into a pot filled with incandescent metal. Both hands came out of the ordeal unhurt. The precaution necessary to prevent the disorganizing action of the incandescent mass is to make the experiment with confidence; to pass the hand rapidly, but not too rapidly, in the metal in full fusion. The experiment succeeds perfectly when the skin is moist, and the dread usually felt at facing masses of fire supplies necessary moisture; but by taking some precaution we may become truly invulnerable. The following succeeds best:—Rub the hands with soap so as to give them a polished surface; then, at the instant of trying the experiment, dip the hands into a cold solution of sal-ammoniac saturated with sulphurous acid. The experiment has been tried by Boutigny with melted lead, bronze, and cast iron.

Development of Electricity by the Contraction of Muscles.—The experiment of M. Du Bois Reymond on the development of electricity by the voluntary contraction of the muscles has been much discussed on the Continent. MM. Despretz, Becquerel, and Matteucci have not been successful in producing the effects which were stated to have been obtained by M. Reymond, and attested by M. de Humboldt. M. de Humboldt has addressed a second letter to M. Arago, stating that at a new *séance* in the cabinet of M. Emile Du Bois Reymond the effects produced by M. Mitscherlich were most unequivocal, and fully established the truth of this new fact. "Occupied myself," concludes Humboldt, "for more than half a century in this class of physiological researches, the discovery which I have announced has for me a vital interest. It is a phenomenon of life rendered sensible by a physical instrument."

MORTALITY TABLE,

(Metropolis.)

For the Week ending Saturday, Aug. 18, 1849.

Causes of Death.	Total.	Average of Five Summers.
All Causes	2330	1008
Specified Causes	2227	1005
Zymotic (or Epidemic, Endemic, and Contagious) Diseases	1593	302
Sporadic Diseases:		
Dropsy, Cancer and other Diseases of uncertain or variable seat ...	40	44
Tubercular Diseases	149	190
Diseases of the brain, Spinal Marrow, Nerves, and Senses	115	119
Diseases of the Heart and Blood-vessels	38	29
Diseases of the Lungs, and of the other Organs of Respiration	83	81
Diseases of the Stomach, Liver, and other Organs of Digestion ...	54	76
Diseases of the Kidneys, &c. ...	12	11
Childbirth, Diseases of the Uterus, &c.	6	7
Rheumatism, Diseases of the Bones, Joints, &c.		
Diseases of the Skin, Cellular Tissue, &c.		2
Malformations		3
Premature Birth and Debility		22
Atrophy		25
Age		43
Sudden		8
Violence, Privation, Cold, and Intemperance		36
Causes not Specified		3

The following is the number of Deaths occurring from some of the more important special causes.—

Apoplexy	11	Heart	31	Phthisis ..	
Bronchitis ...	34	Hooping cough	34	Pneumonia	
Cholera.........	1230	Hydrocephalus	37	Scarlatina	
Childbirth	6	Influenza	1	Small-pox	1
Convulsions...	40	Liver	8	Stomach	6
Diarrhœa	188	Lungs.	5	Teething	11
Dropsy	19	Me	23	Typhus ...	46
Erysipelas		Paralysis	28	Uterus ...	

BIRTHS AND DEATHS.

	Births.	Deaths	Deaths over Birt
Males ...	676	1116	440
Females	658	1114	456
Total......		2230	

METEOROLOGY OF THE WEEK.

	Mo	Tu	We	Thursday.	Friday		Mean
Mean of Barometer.		29	29.	30	29.	30	
Mean of Thermometer. Dry.		1	2	1	5		
Ditto. Dew Point.							
Difference between the Mean Temperature of the day and the same day on an average of 7 years.	—	—	—	—	—		—1·
G... Direc... Wind.							
Amount of Horizontal Movement of the Air.	Miles 1.0	140					
Rain in Inches.							
Elec...	N	N.E.		N	N.N.	E.E.	

TO CORRESPONDENTS.

"Cyclops."—Myopia may be produced by looking habitually at small and near objects, and concave glasses often increase the defect. We do not think that this disease naturally disappears in advanced life.

"A Young Anatomist."—The third nerve is certainly the principal motor nerve of the eye-ball; experiments on this nerve being difficult of execution, we are not surprised at our Correspondent's disappointment.

"Amator Veritatis."—Inquiry should be made of the Secretary.

"Obstetrician."—It would be a difficult matter to state when midwifery forceps were first used. Two kinds were, however, formerly employed in practice. One was armed with teeth, and was intended to extract the child without regard to any injury it might sustain. It is now entirely laid aside. The other was without teeth, and when used was covered with some soft material, to defend the fœtus from injury.

"Beta."—The appointment of army assistant-surgeons rests with the Director-General, Sir James M'Grigor.

"A College Member" is mistaken. The examination at Oxford is conducted not only *vivâ voce*, but by written questions.

"Rusticus."—The old corporation of Surgeons lost its charter from neglect of duty.

"Inquirer."—Relapses are frequent after operations on cancerous tongues.

"A Qualified Practitioner."—The regulations of St. Andrew's are, we believe, always enforced, except when a candidate is possessed of a diploma from the Colleges of London, Edinburgh, Dublin, or the Faculty of Physicians and Surgeons of Glasgow, or a license from the Apothecaries' Company; in which case, he has merely to present such diploma or license previously to examination for M.D.

"A Surgeon and Old Subscriber."—It is impossible for us to state the exact nature of the accident. Fractures of the neck of the scapula are liable to be mistaken for dislocations of the humerus downwards, the weight of the arms carry the limb downwards along with the glenoid cavity of the scapula, and a hollow is felt under the acromion.

"Londinensis."—Hippuric acid can be obtained from fresh urine by concentrating it in a gentle heat, adding so much hydrochloric acid as to produce an acid re-action, and setting it aside to rest when impure coloured hippuric acid is deposited in crystals. In the urine it is combined with soda or ammonia, from which it is separated by the mineral acid.

"Mem."—The mode in which electricity is distributed over the surface of a conductor is dependent on its figure. On a sphere it forms an uniform stratum of equal thickness all round; but on an ellipsoid, the stratum is thickest at the extremities of the longer axis.

"Chirurgus, Newport."—Any medical practitioner can obtain lymph on application to the Secretary of the National Vaccine Institution.

"A Subscriber."—All the information required by our Correspondent may be found in Dr. Golding Bird's Work.

"Mr. Philbrick, Colchester."—Communication received.

"F. S. Bexley, Kent."—The muscus pyxidatus is meant, a common little plant which grows on the banks of ditches, by wood sides, and in dry barren soils.

"Querist."—(1) Yes. (2) The surgical wards.

"Mr. Wm. Smith, Belper."—Letter received.

"An Old Subscriber, Cadogan-place."—If a person with only a German diploma practises as an Apothecary, he is liable to prosecution under the Apothecaries' Act; if as a Physician, the London College can punish him.

"Mr. Arthur Baillie, Upata, Venezuela."—Communication received.

"Mathetes."—(1) Yes. (2) Yes, if the Practitioner be a Licentiate of the Society.

"An Old Retired Physician."—Received.

ORIGINAL LECTURES.

LECTURES ON THE CHEMISTRY OF THE POISONS; OR, ON PRACTICAL TOXICOLOGY.

SHOWING THE APPLICATIONS OF CHEMISTRY TO THE DISCOVERY OF CRIME.

By H. LETHEBY, M.B., Lond:
Lecturer on Chemistry at the Medical College of the London Hospital.

LECTURE VI.

Applications of a Knowledge of the Chemistry of Sulphuric Acid to Medico-legal Purposes:—1st. In recognizing the Effects of Sulphuric Acid on the Tissues of the Animal Body; *Post-mortem* Appearances; Administration of Antidotes; Mode of proceeding in order to recognise the Presence of the Acid in Organic Compounds, as, first, in the Contents of the Stomach; Letheby's Process, Christison's ditto, Taylor's ditto; and, secondly, in the Tissues of the Body; Methods proposed by Letheby; Amounts of Acid yielded by the Natural Tissues; Devergie and Taufflieb's Process; Taylor's Objections thereto; Comments on the Looseness and Want of Precision in the labours of some Toxicologists.

GENTLEMEN,—We have been hitherto engaged in studying the chemistry of Sulphuric acid. Let us now see what practical applications can be made of the knowledge so obtained.

In most cases of poisoning by oil of vitriol, the chief parts of the evidence will be deduced from chemical facts. It is your duty, therefore, whenever you are called on to investigate these cases, to keep the chemistry of the subject in view, to seek diligently for the corrosive effects of the acid upon the body and clothes of the individual poisoned, and also to make a chemical examination of all relative matters which are likely to contain the poisonous agent. Much of what I have already said will, perhaps, serve to guide you in these inquiries; but still it will be advantageous, if we discuss this part of our subject a little more fully. And,—

1ST. WITH REGARD TO THE CHEMICAL EFFECTS OF THE ACID UPON THE TISSUES OF THE ANIMAL BODY.

At a former meeting, you witnessed the effects of sulphuric acid when it was poured upon the dead mucous membrane; and I have now to inform you that the very same effects are manifested when this acid is swallowed or permitted to run over the living animal tissues. You will find, therefore, that, when a strong solution of sulphuric acid is brought into contact with any delicate or highly organised part of the body, it produces effects which vary with the period of its operation; thus, the acid, at first, coagulates and whitens the albumen, or rather the epithelium, which exists upon the surface of the part, and then, acting for a longer time, it carbonizes, and subsequently dissolves the tissues of the part; while, if it should happen to become mixed with blood, it will coagulate this fluid, and convert it into a dark, tarry-looking compound. All of these effects are commonly observed in cases of poisoning by oil of vitriol; for instance, the whitening effect is generally manifested upon the lips, tongue, pharynx, and œsophagus, the parts over which the acid has flowed in the act of swallowing it. I should tell you, moreover, that the epethelium, thus acted on and disorganised, soon begins to peal off in long shreds, leaving the subjacent tissue red and somewhat inflamed. Indeed, there are cases on record in which the membrane so coagulated has been thrown off from the œsophagus, and vomited up in large flakes or tubular pieces resembling parchment. If, however, the parts upon which the acid has thus acted, have been exposed to the air, and allowed to become dry, the whitening effect is generally lost; for, under these circumstances, it rapidly changes into a dirty brown scab. It is common, therefore, in cases of poisoning by oil of vitriol, to find the lips and angles of the mouth covered with sores of the latter description.

On reaching the stomach, the acid at first exerts its coagulating action upon the walls and albuminous contents of this organ; but soon, in consequence of a more prolonged action, the poison operates corrosively upon the mucous coat; blood is thus set free which, by being blackened and coagulated by the acid, is converted into a dark grumous compound like thick porter or unstrained coffee. This compound is quickly discharged from the stomach; and, if you examine it carefully, you will find portions of coagulated albumen, together with strips of disorganised membrane, and dark slimy mucous abundantly diffused through it. All this is accompanied, as you may easily imagine, with an excruciating burning pain in the mouth, throat, and stomach. You will find, also, that shreds of albumen and dark-coagulated blood are copiously voided by stool, indicating that there has been a terrible disorganising action on the mucous surface of the intestines likewise. In fact, should the poor sufferer rally from these, the first effects of the acid, he is very likely to fall a victim to one or other of its secondary consequences, as ulceration of the stomach or bowels, scirrhus of the pylorus, chronic dyspepsia, or even starvation itself. Should he, however, succumb to the earlier effects of the poison, you will, on making a *post mortem examination* of the body, be almost sure to find some remains of the whitening effect of the acid upon the tongue and œsophagus. The exterior of the stomach will generally exhibit a multitude of vessels filled with black, acid, coagulated blood. Frequently, too, you will find that the poison has transuded through the parietes of the stomach and intestines, and has not only given an acid character to the fluid which lubricates the outer surface of these organs, but has also produced a violent inflammation of the peritoneal membrane itself. Again, on opening the stomach, you will find that its contents are dark-coloured and slimy; that its mucous coat is blackened and gorged with blood; and that its parietes are corroded, and, perhaps, in part, dissolved by the poison. It may even happen that the walls of the stomach are quite eaten through by it, and that the acid has attacked the surrounding viscera. Should the vitriol have passed beyond the pyloric opening of the stomach, you will discover some evidence of its corrosive action along the first foot or so of the intestinal canal; and the intestines will contain a dark porter-like fluid, in which you will readily perceive flakes of albumen and shreds of disorganised membrane.

And now with regard to the administration of Antidotes.— Your chemical knowledge, together with the facts which we have just witnessed, will indicate to you that the best remedies in cases of poisoning by oil of vitriol will be the most accessible; and, therefore, you will resort to such antidotes as white of egg, soap and water, chalk and water, or, better still, if at hand, a table-spoonful or so of calcined magnesia. All these substances act by engaging the affinities of the acid, and by forming compounds which are harmless to the tissues. Reference is made in some of our medico-legal works to the employment of the stomach-pump in these cases; but I trust that no man would be rash enough to use this instrument under such circumstances, unless he wishes to kill by abrading the œsophagus or by perforating the walls of the stomach. Indeed, you should always remember that, in cases of poisoning by the mineral acids or alkalies, you are not to think so much about the means of getting rid of the corrosive agent, as you are concerning the mode by which the virulent action of the poison can be most fully and promptly neutralized. Again, a great deal has been said respecting the use of alkaline carbonates and bicarbonates as antidotes to sulphuric acid; but I cannot understand that they possess any advantage whatever over the corresponding earthy compounds, and they are certainly open to two great disadvantages, viz., that they are not always at hand, and that their too liberal employment is very likely to produce effects which are quite as dangerous as those which result from oil of vitriol itself.

MODE OF PROCEEDING IN ORDER TO RECOGNISE THE PRESENCE OF SULPHURIC ACID IN ORGANIC COMPOUNDS.

(a) *In the Contents of the Stomach.*—To judge from the many instances of poisoning by sulphuric acid on record, it appears that the contents of the stomach do not commonly contain, under such circumstances, a very notable proportion of the acid. In fact, when we bear in mind, that sulphuric acid has a powerful affinity for albuminous substances; that the torments of the patient urge him to make use of large quantities of diluents; that the vomiting excited by the poison is profuse and constant; that the efforts of the medical attendant, and the results of putrefaction are very likely to neutralise any free acid which may escape expulsion, it will be evident to you that there is but a small chance of our being able to detect the acid in those matters which remain in the stomach after death; and, therefore, as Dr. Christison says, " the detection of sulphuric acid in complex organic mixtures, simple though it appears at first sight, is one of the most difficult problems in medico-legal chemistry." As I have already informed you, many toxicologists, including Orfila, Devergie, Simon, Christison, and Taylor have turned their attentions to this important subject, and the result of their investigations prove that a satisfactory process for the detection of sulphuric acid in organic mixtures has yet to be discovered. The process which I shall recommend to you is one which I have employed on many occasions with considerable success; and besides its being a very certain one, it possesses the advantage of being the means whereby other and widely different poisons may also be detected.

1st. You are to evaporate the contents of the stomach in a water-bath until they acquire a thick syrupy consistence; then exhaust them with strong spirit, (an alcohol, having the specific gravity of 834, will answer very well for the purpose,) and test the filtered liquor by means of a soluble salt of baryta. In this operation you will understand, that the alcohol merely dissolves free sulphuric acid, and leaves the neutral salts of this poison untouched. But,

2ndly. As the residue of this operation may still contain soluble sulphates, you are to digest it in water, then filter the solution, and test it for sulphuric acid in the ordinary manner.

3rdly. Should the Practitioner have administered chalk and water as an antidote, it is possible that the residuum of the last operation may still contain a considerable portion of sulphuric acid, in the form of sulphate of lime,—a salt which is but slightly soluble in water. In order to demonstrate the truth of this, you are to boil the aqueous residue for about an hour or so with an excess of a solution of carbonate of soda; by which means, if sulphate of lime be present, you will, in consequence of an opposite play of affinities, obtain a solution of sulphate of soda, and a precipitate of carbonate of lime. On filtering this liquor, acidulating it with nitric acid, and testing it with a salt of baryta, you can easily prove the existence of sulphuric acid.

By proceeding in this manner there will be no difficulty in detecting all the sulphuric acid which was present in the contents of the stomach; but remember, that your inquiries are not yet at an end,—for, although you may have found the acid in the suspected liquor, you must be guided by collateral circumstances in forming your opinion as to its source.

Notwithstanding that I strongly recommend you to adopt the preceding mode of analysis, as being, in my opinion, the most easy and certain, yet it is my duty to make you acquainted with a process which is considered, by Dr. Christison, to be the most eligible. He describes it as follows:—

(a) " *If the mixture be acid*, add distilled water, —if necessary, boil, filter, and test a few drops of the fluid with nitrate of baryta, followed by nitric acid. If there be no precipitate, the search for sulphuric acid is at an end. If a precipitate form, distil the fluid from a muriate of lime or oil bath at a temperature not above 240°, till the residuum acquire a thick syrupy consistence; and preserve apart the last sixth of the distilled liquor. In this liquor test for hydrochloric acid by litmus paper and nitrate of silver; and for acetic acid, by litmus paper and the odour and taste of the liquid. If these acids be not in the distilled fluid, they are not in the residuum. In a portion of this residuum

search for nitric acid, and in another portion for oxalic acid, by the processes for these poisons in complex mixtures. If all these acids be thus proved to be absent, it is most unlikely that the acidity of the mixture is owing to any other but sulphuric acid, especially in the case of the contents or textures of the stomach.

"Dilute now what remains of the syrupy extract, and add nitrate of baryta with nitric acid. If a precipitate fall, there is a strong presumption, that the acidity of the mixture was owing either to a bisulphate, or to free sulphuric acid. And between these, the question may be almost settled, first, by the probability or improbability of a bisulphate having come in the way, and, secondly, by the symptoms and morbid appearances. The result, however, cannot justify more than a presumptive opinion. But, if hydrochloric, acetic, or nitric acid be indicated in the subject of analysis, or an acid sulphate, the whole process is vitiated and it is scarcely possible to arrive at any trustworthy conclusion.

"(b) *When the mixture is neutral*, sulphuric acid may be detected in it by the first steps of the preceding process; but the inference, that it once existed free can only be drawn when the subject of examination is not in a state of decay, when the quantity of sulphate of baryta obtained is considerable, when the administration of an antidote is proved, and when the ashes after incineration contain the antacid base which is said to have been administered. Even then the inference is only presumptive."

We have not time to consider the many minor difficulties which stand in the way of our adopting the process just mentioned; but I may perhaps inform you of one great, and, I think, insurmountable objection to it, namely, that the stomach is almost sure to contain a free acid—a circumstance which will, as Dr. Christison admits, vitiate the whole process, and destroy even the *presumptive* evidence which might otherwise have been deduced from it; for, as all chemists are aware, a free acid is commonly present as a natural constituent of the gastric juice; and, besides this, an acid will most assuredly be liberated by the reaction of the oil of vitriol upon the muriates, acetates, and lactates, which are so constantly present in the fluid contents of the stomach and alimentary canal.

As to the method recommended by Mr. Taylor, namely, that we should make a quantitative determination of the sulphuric acid contained in two equal portions of the suspected liquor, one of which had been previously dried, I have already pointed out a few objections; and, notwithstanding that I cannot advise you to adopt this process, yet I think it hardly deserves to be considered as an operose method, that is scarcely applicable to ordinary medico-legal investigations (Christison).

(b) *Detection of the Acid in the Tissues of the Body.*—We have already seen, that sulphuric acid combines most intimately with the protein elements of the tissues, and forms compounds from which the acid cannot be removed by simple washing. Wherever, therefore, you recognise the presence of that kind of corroded epithelium, which is due to the formation of sulphate of albumen, you may be certain that you can, with a little management, obtain ample proof of the presence of sulphuric acid. And, judging from the results of a great number of experiments which I have made with this compound, I am led to think, that the best method of detecting the acid therein is the following:—Take the stomach, or the lining membrane of the œsophagus, or the brown eschar which you may, perhaps, find upon the lips, or other parts of the body; wash it, wipe it dry, and weigh it. Then dissolve it in a liquid, consisting of one part of pure nitric acid, two parts of muriatic acid, and two of water: when the solution is complete you are to filter the liquor and precipitate the sulphuric acid contained in it by means of a soluble salt of baryta. Collect this precipitate, dry it, ignite it, and weigh it. All the sulphate of baryta so obtained, which exceeds 5-10ths, or half a grain per cent. of the wet material used, may be regarded as indicating an equivalent amount of sulphuric acid which was combined with the albumen; and, therefore, the amount of sulphuric acid which had been brought into contact with the tissue in a free and corrosive state. In this calculation I have given considerable latitude to the range of sulphur normally contained in the tissues of the human body; for, in the course of my investigations, I have never obtained by this mode of manipulation more than 0·45 per cent. of sulphate of baryta from the substance of the wet tissues. In fact, the results of my experiments on the amount of sulphuric acid yielded by albumen, sulphate of albumen, the tissue of the stomach, &c., may be thus represented:—

Dry albumen yielded, on the average, 4·0 per cent. of sulphuric acid.

Dry sulphate of albumen yielded from 6 to 10 per cent.

The dry tissue of the healthy human stomach yielded, on the average, 0·6 per cent.

The tissue of a stomach which had been dipped into an acid of sp. gr. 1390, then well washed and dried, yielded 3·5 per cent.

The tissue which had been dipped into an acid of sp. gr. 1616, then well washed and dried, yielded 5·1 per cent.

The tissue which had been dipped into an acid of sp. gr. 1840, then well washed and dried, yielded 8·4 per cent.

The wet tissue of the healthy, first washed and then wiped as dry as possible, yielded 0·13 per cent.

Portions of the wet tissues of the stomach, which had been dipped in acids of varying strengths, then well washed and wiped as dry as possible, yielded from 0·9 to 2·1 per cent.

You may remark, therefore, that when the tissues of the body have been acted upon by sulphuric acid, they are converted into compounds which are insoluble in water, and which yield, upon analysis, a proportion of sulphuric acid, which is considerably greater than that furnished by the normal tissues. You may notice, moreover, that the quantity of sulphuric acid procurable from the dry tissues is about four times as great as that from the wet ones.

I have brought these facts before you because they illustrate, in a very significant manner, the value of a process which might be considered by some authorities as operose, and therefore inapplicable to the purposes of the Medical jurist. Let me, however, here remark, that no man is justified in condemning any process or method of analysis, merely because it involves a little trouble and tact; for in your medico-legal pursuits you will have many embarrassments and responsibilities to contend with, and you will not overcome them unless you take trouble and use tact: in fact, no man is fitted for the duties of a toxicologist, or warranted in undertaking, even the simplest analysis of a poisonous substance, who is not prepared to encounter greater difficulties than any here mentioned. I have long been convinced in my own mind that one of the great barriers to the advance of toxicology as a certain science, one of the great stumbling-blocks to the members of our own Profession, when they are forced into the paths of medical jurisprudence, one of the great elements for contention, doubt, and cross-examination with the forensic advocate; and, I might also add, one of the great inducements to the commission of crime, is a want of precision in our own conduct, and a disregard of philosophical rules by those who are our leaders in such matters; for, unfortunately, the writings of some of our English toxicologists are based upon anything but sound scientific principles; in proof of which I will fearlessly say, that the sciences of Physiology, Pathology, and Chemistry, the great foundations of Toxicology and Legal-medicine, are all more or less misused, and often fearfully misunderstood by them. But to proceed with our subject, other methods have been proposed by chemists for the detection of sulphuric acid in the tissues of the animal body: thus Orfila and Barruel, finding that sulphuric acid could not be washed out of the tissues of the stomach, have recommended that the organ should be subjected to dry distillation at a read heat, by which means the combined acid is liberated and decomposed. The resulting sulphurous acid is to be received into a solution of ammonia, then converted into sulphuric acid by the aid of nitro-muriatic acid, and finally tested as such by means of a soluble salt of baryta. MM. Devergie and Tauflieb, however, on resorting to this process in one of their very important cases, found that a large portion of the sulphurous acid escaped absorption by the ammonia, and was lost during the operation; they, therefore, suggested that the sulphurous acid should be received into a solution of iodic acid and starch, the former of which would yield its oxygen to the gas, and so form sulphuric acid, while the liberated iodine would re-act upon the farina, and convert it into a deep blue compound. Mr. Taylor has raised some objections to the process, upon the grounds that iodic acid is easily decomposed by numerous other deoxydising substances, as for example, by sulphuretted hydrogen, morphia, gallic acid, the sulphites, sulphocyanides, cyanides, sulphurets, saliva, and even by the tissues of the stomach itself. I do not find, however, that all the objections raised upon these grounds apply with equal force; for, in the first place, the vapours from morphia and gallic acid do not affect iodic acid when these substances are subjected to dry distillation, and, in the second place, we are not likely to have sulphurets, sulphites, or cyanides in the dried tissue of a human stomach. It is far different, however, with the fallacies which result from the operation of animal matter itself; for these are formidable objections, and you may convince yourselves of this fact by taking a few grains of dried blood, albumen, or even a small piece of the stomach itself, and introducing it into a small test-tube. On applying heat to the substance, and receiving the empyreumatic vapours upon a piece of paper moistened with a solution of starch and iodic acid, you will notice that they make the paper blue, as if a compound of sulphuric acid had been present, when, after all, the effect is due to the sulphur which is normally contained in these animal substances. Such facts as these have led Mr. Taylor to conclude, "that when sulphuric acid cannot be detected in the contents of the stomach in a free state, the chemical investigation must be considered at an end," and he even passes a severe censure on the proposition made by Orfila, who, in adverting to the difficulties which surround this subject, says that they may be removed by distilling to dryness equal weights of normal stomach and intestines, and comparing the average results with those obtained from the dry distillation of the suspected stomach; upon which Mr. Taylor remarks, that "this appears to be the refinement of medico-legal chemistry. Evidence which was based upon experiments of this kind would not be received in an English court of law; for it would be impossible to estimate the exact amount of normal sulphur in the human stomach, or its contents." I take it, however, that this observation has resulted more from imperfect theory than from actual experiment; for, as you have already seen, it is not impossible to determine the exact amount of normal sulphur in the tissues of the human body; and it is to such refinements of medico-legal chemistry that we may expect to see the science of Toxicology based upon a firmer footing, and the evidence of Medical witnesses received with more respect, and valued at a higher price; for why should not the efforts of the chemist be as refined in matters of this description as they have been for a long time past in matters connected with mineralogy, and as they are now rapidly becoming in those of physiology. I consider, gentlemen, that such remarks from our leading toxicologists are to be regarded, not merely as unmerited slurs upon the science of Chemistry, but as powerful inducements to cultivate this particular branch of inquiry with more precision and earnestness.

In our next lecture, gentlemen, we will consider the mode in which sulphuric acid is to be detected in the fluids and secretions of the body, and upon the cloths where the acid has fallen. I shall also pass on to consider the impurities of oil of vitriol, the rectification of this acid, and some of the fraudulent uses of it.

LECTURES
ON THE
PROCESSES OF REPAIR AND REPRODUCTION AFTER INJURIES.

DELIVERED AT THE

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

By JAMES PAGET, F.R.C.S.

Professor of Anatomy and Surgery to the College.

[Reported for the "Medical Times."]

LECTURE V.

Repair of Fractures.—Necessity of studying the process in the human subject; errors resulting from its study in animals.—Various modes of development of the new-formed bone: their relation to the natural development of bone from cartilage and from fibrous tissue.—General description of the process for the repair of simple fractures.—Modifications of the process in compound fractures, and in certain parts of the skeleton.—Imperfect union of fractures.

Mr. President and Gentlemen,—It is not necessary that I should enter into any detailed account of pus, but I may point out the relation of it to the process of healing by granulations. Its existence is not necessarily accompanied by a growth of granulations; and there are some cases in which these are formed independently; thus we find bones covered, after a few weeks, with their ordinary appearance without suppuration.

It would be an interesting fact if it were found that the granulations that do not suppurate are those which are formed of nucleated blastema; they are so in some cases, I know; but it is not proved of all. However, the common instances of suppurating granulations are those that are formed of nucleated cells; and with these pus may be formed, whether on an open surface, or on the walls of an abscess, or on the walls of an inflamed serous cavity, when, as in empyema, the lymph acquires a granulated surface. To illustrate the relations between pus and granulations, at least, so far as their component cells are concerned, this diagram may serve, which was copied from sketches that I made, at the same time, of some granulation-cells from the walls of a sinus, and some pus-cells from a healthily granulating wound. I chose these sources purposely, that I might be able to compare ill-developed granulation-cells with well-constructed pus-cells; and a comparison of them shows, that, whether as seen without addition, or as changed by the action of water and acetic acid, they are not to be distinguished from one another. Had I not seen the vessels in the tissue that these granulation-cells formed, I might, in the first examination, have almost thought I was deceived in thinking they were not pus-cells. Six varieties of the appearances of the cells from each source are here shown, and they severally exactly correspond. Other varieties of form might have been drawn from both sources; but these may suffice to show the apparent identity of structure between well-formed pus-cells and the ill-developed or degenerate granulation-cells, such as are found in the walls of sinuses and the like half-morbid structures. I do not mean to say generally that granulation-cells and pus-cells cannot be distinguished; for between well-formed granulation-cells, such as are found in healing wounds, and any particles that can be found in pus, certain distinctions are almost always manifest. The pus-cells are darker, more and more darkly granular, more various in size, and more various, not in shape, but in apparent structure, more often containing particles like fatty molecules, more rarely showing a nucleus when neither water nor acid is added, and much more commonly showing a tripartite or ill-formed nucleus under the action of the acid: above all, not showing any molecular movement of their contained particles when they are distended with water. From this the conclusion is obvious, that the cells of pus are ill-developed or degenerate granulation cells. Some of them may be degenerate, they may have been, as granulation-cells, attached for a time to the surface of the granulation-layer, and, having been to a certain point properly developed, and having lived their time, may, in ordinary course, have been detached and shed, as epithelial cells continually are from healthy surfaces. They may be thus detached after more or less degeneration, and hence may result some of the modifications of form that they present; but some also may be ill-developed, and which, being exposed to the air, or being too remote from the supply of blood, cannot attain its due development, and, in an imperfectly developed state is soon cast off. It cannot but be that organizable matter is constantly oozing from such a surface as that of granulations; but the conditions into which it enters on that surface are such as are very likely to hinder any but the lowest and an imperfect organization.

A further confirmation of the opinion that pus-cells are ill-developed or degenerate granulation cells, is furnished in the numerous cases in which pus-cells are produced after, or together with, inflammatory exudation-cells; as in abscesses, in inflammation of serous membranes, and the like. Now, exudation-cells are not distinguishable in apparent structure from granulation-cells, and, like these, may show every gradation of form to that of the pus cell; so that, from both cases, we may conclude that the true relation which the cell in granulations or in inflammatory lymph holds to the pus cell, is that of a well-organized structure to the same structure either ill-developed or degenerate after having, up to a certain point, been duly formed.

I come now to treat of the repair of fractures, into which I shall not enter very largely; for any one at all acquainted with the volumes which have appeared on the subject, and with the merit of those who have investigated it, will feel that there is little necessity to enter very fully into it. I shall, therefore, limit myself to an explanation of only two or three points in the history. The chief points that I have chosen are,—1st, the particulars in which the process of repair of fractures, observed in the human subject, deviates from that described from experiments upon lower animals; and secondly, the nature of the reparative material previous to its ossification. On the first point, I must express my conviction that the description drawn by Dupuytren and others, from examinations of fractures in dogs, rabbits, birds, and other animals, cannot be applied without great deduction to the case of fractures in the human subject. My impression of this was first obtained while describing the large collection of fractures for the Catalogue of the Museum of the College, and I there stated, that there was scarcely a specimen in the Museum of such a provisional callus formed in the repair of a fractured human bone; in nearly every case of such fracture, the material of repair, whether cartilage or bone, is only inlaid between the broken surfaces, or between the adjacent parts of the fragments, and unites them by being fixed to both. In favourable conditions this appears to be the usual mode of repair, even though the fragments of the broken bone be very much displaced. But the formation of a provisional callus, completely encircling the broken ends and adjacent parts of the fragments, is usual in the repair of fractures of the bones of other mammalia, and of birds. A similar, but less perfect process, is also shown in the accumulations of cartilage, or bone, which are often formed about fractures of the ribs, and of some other bones in the human subject, the fragments of which have not been held steady. It is probable, therefore, that the difference between the modes in which fractures are commonly united in man and other animals respectively, depends, in part, on the movement to which the fragments are subjected in the latter,—but, probably, in part, also, on the greater readiness with which, under all circumstances, bone is formed in the animals lower than man. Since that was written, I have examined many more specimens, and find the same rule true; namely, that in the ordinary repairs of simple fractures in the human subject, the reparative material, or callus, is merely inlaid between the several fragments: it fills up the interspaces between them and the angles at which one fragment over hangs another; but it does not encircle or ensheath them, in the manner implied in the description of provisional callus; nor is it in any considerable quantity, if at all, deposited either beneath the periosteum or within the medullary tube. In birds, dogs, and other ordinary subjects of experiments, the formation of a provisional, or, as it may, perhaps, be better called, an *ensheathing* callus, is usual. It is illustrated by numerous specimens on the table; yet even in animals it is not constant. To obtain what would be called good specimens of provisional callus, the injuries must be inflicted upon young animals, and among these I cannot but suspect that particular instances have been selected for description,—those in which less callus was formed having been put aside as imperfect instances of repair, though, in truth, they may have displayed the more natural process. For fractures in the human subject, the evidence that union is accomplished by the reparative material being placed between, not within and around, the fragments—*i.e.*, as an intermediate, not an ensheathing callus—this evidence may be obtained by the examinations of such fractures even long after they are completely healed. In as many as you like to examine, you will find the new bone formed exclusively between the fragments. Whether they were in apposition, or nearly so, or wide apart, still there is no appearance of new bone being formed on the outer side of any fragment,—I mean on that side which is turned away from the other fragments. And this is the case even in those instances in which there is so much displacement of the fragments, and so much distortion, that we can hardly suppose the repair to have proceeded very quietly. Neither in any of these do you find new bone within the medullary tube. It may be objected by some to these specimens, that the fragments were once ensheathed and blocked up with callus, and that it has been since absorbed. But this is not probable, seeing that in many cases there remain, on the outer surfaces of the fragments, certain marks of their original form and slight irregularities. In one of the specimens which I present, we have traces of the healing of a long fissure, which appears now as a sunken groove, making it nearly certain that no new bone was formed over it. In another, is a detached piece of the wall of a femur turned quite round, so that its periosteal surface lies on the periosteal surface of the principal fragment; yet on the outer surface of this piece (which was the inner surface of its wall) the thin plates forming the boundary of the medullary tube are still unchanged. But if any deem these and the like characters insufficient to prove the absence of ensheathing callus, and of callus extending into the medullary tube, yet recent specimens are not open to such doubts. I add, therefore, that (with the exceptions presently to be mentioned) in all the specimens of fracture that I have been able to examine, in the human subject, within six months of the time of the injury, there has been the same absence of provisional or ensheathing callus. The specimens here present are—a radius, four weeks after the fracture; another, four or five weeks; a tibia, five weeks; a femur, six weeks; another of the same date; a third, I should think, about eight or nine weeks; a radius, of somewhat later date; a tibia, eight weeks; a fibula, eleven weeks; a tibia, twelve weeks; and a tibia, sixteen weeks after the injury. Here are, also, others of various but unknown dates, all in process of apparently natural repair. All these were cases of simple fractures, and they include (with a few exceptions presently to be mentioned) all the specimens of such recent fractures, in the human subject, as are in the museums of the College and of St. Bartholomew's Hospital. The displacements and other conditions following the injury have been manifestly various; but all agree in this, that the fragments are united by intermediately placed reparative substance, and that this, whether soft or osseous, in no case surrounds or ensheaths the fragments, or does more than just close in the medullary canal. When present in the largest quantity, it is only enough to smooth off the chief irregularities, and to fill up the interspaces and the angles or corners, between the fragments. Such, then, appears to be the natural mode in which the reparative material is deposited for the union of fractures of human bones. And, regarding

the particular position which it may in each case occupy, I do not know that it can be more exactly described, than by saying, that it is deposited where it is most wanted for the strengthening of the bone, —so that, whatever would be the weak part of the bone, if unhealed, there is the new material placed, in quantity as well as in position just adapted to the exigencies of the case, and restoring, as much as may be, the original condition and capacities of the bone.

If now it be inquired why this difference should exist in the corresponding processes in man and other animals, I believe still that it must be ascribed principally to the two causes already quoted from the catalogue—namely, the quietude in which fractures in our bones are maintained, and the naturally greater tendency to the production of new bone which animals always manifest. Even independently of surgery, in the case of fractures of the lower extremity, the human mode of progression almost compels a patient to take rest; and in fractures of the upper extremity, the circumstances of human life and society permit him to do so far more than other animals can. The whole process of repair is, therefore, more quietly conducted; and, as we may say, there is comparatively little need of the strength which the formation of provisional callus would give a broken limb. The exceptions to the rule of difference in the repair of human bones and those of animals confirm it as thus explained; for the only bones in which, in the human subject, a provisional callus is generally or naturally formed, for the repair of fractures, are the ribs. In cases of fractured ribs one may see, indeed, a very close imitation of that which is described, from experiments on animals, as the ordinary mode of union. The provisional callus is well formed under the periosteum, and encircles, like a broad ring or ferrule, both the fragments, and may almost completely ossify before their union is accomplished, or even apparently begun. Another bone, for the repair of which, but more rarely, callus is formed around the fragments, is the clavicle; and the best specimen in which I have here seen it is one in which the fracture was not detected, and the fragments were allowed to move on one another, till the patient died twelve weeks after the injury. Except in such cases as these of fractures not kept at rest, I doubt whether a natural formation of callus beneath the periosteum, or within the medullary tube of a human bone, would ever occur. In disease, the occurrence is not so rare; for, when the natural process of union fails altogether, the loose ends of the bones may be enclosed within a case formed wholly or in part of bone; or an imitation of callus may be made by a gradual morbid accumulation of bone around a fracture, even after its natural union. But I think the comparative restlessness of animals is not alone sufficient to account for all the difference in the processes. The remainder may be ascribed to their greater tendency, in all circumstances, to the formation of new bone. Not in fractures alone, but in necrosis this is shown. It is very rarely that such quantities of new bone are formed in even children, as are commonly produced after necrosis of the shafts of bones in dogs or other animals; nor is there in the human subject any such filling up of the cavities from which superficial sequestra have been separated, as the experiments of Mr. Hunter showed, after such exfoliations from the metatarsal bones of asses.

The next point on which I proposed to speak, concerned the structure of the reparative material thus deposited within the fragments. In reference to this, it seems essential that I should refer to those recent observations on the natural process of ossification, which have shown that bone is as commonly and as naturally formed through fibrous or membranous tissue as through cartilage. Dr. Robert Nesbitt appears to have been the first who described the ossification of certain bones, especially those of the vault of the skull, as being effected in membrane. His account of the difference between the ossification of the bones of the skull and that of the vertebræ, the pelvis, and the bones of the limbs, is so far accurate, that it appears strange it should not have directed subsequent inquiries much more than it did. But the distinction that he pointed out was, after his time, only occasionally insisted on; and till very recently the opinion generally accepted was, that the bones of the vault of the skull are formed by the ossification of cartilage, and that their development differs from that of the other bones only in this,—that there is no complete cartilaginous basis formed for each bone before ossification, but that cartilage is formed in the membranous coverings of the brain, just previous to the formation of the bone. Thus, in the parietal or any of these bones in process of ossification, it was held that a thin border of cartilage might be always found projecting beyond the bone; and that, at the same rate as this border ossified, so another, cartilaginous like it, would be formed in preparation for the next step of ossification; the formation of the cartilage only just keeping in advance of its ossification, till the formation of the whole bone was perfected. But, even while this opinion was gaining ground from observations in the Mammalian fœtus, doubts of its truth were arising from examinations, instituted by Von Baer, into the construction of the primordial cartilaginous skulls of fish. These inquiries were, however, little regarded, till Duges published his researches on the Osteology of the Batrachia. In these he showed that the skull of the naked, tailless, Amphibia is originally entirely cartilaginous; and that the bones of the perfect skull develope themselves in part from the cartilage of the fœtal skull, and in part on the exterior of that cartilage, in the perichondrium. Thus he gave strength to the opinion which Von Baer had entertained of the development of the skulls of fish, and directed the observations of many subsequent inquirers. Dr. Sharpey has not only fully confirmed these views, respecting the ossification of the bones of the vault of the skull, but has added this important fact, that the ossification by which the long bones increase in their circumference takes place, not in layers of cartilage successively formed beneath the periosteum, but in layers of fibrous substance; in short, that the peripheral growth of bones that are formed in the first instance by ossification of cartilage, is effected by ossification of membrane. Thus, then, it will appear that the peripheral growth and ordinary maintenance of all bones, after the ossification of their primordial, and for a time growing, cartilage is completed, is effected by the ossification of membranous or fibrous tissue. I would call it fibrous rather than membranous, because in some instances, as the patella and other sesamoid bones, and in the union of fractures, and the growth of some tumors, a mass of tissue, rather than a membrane, ossifies. Thus much of preface seemed necessary to explain the cases in which the material for the repair of fractures is transformed into bone through the development, not of cartilage, but of fibrous tissue. What I have just said of the later growths of bones being accomplished by ossification of fibrous tissue, not of cartilage, might lead one to expect that all ossification for the repair of fractures, after the termination of the usual period for ossification through cartilage, would be accomplished through the formation of a fibrous substance. But it is not so: rather, in the examination of many specimens, one finds the new bone formed in some through fibrous tissue, in some through cartilage, in some through fibro-cartilage, or a mixture of the two; and, in yet further deviation from any single rule of development, the bone may be formed through either cartilage or fibrous tissue, in either a rudimental or a perfect state. The changes that ensue directly after a simple fracture are in accordance with what I have already described in relation to the general repair of injuries. A period of rest follows the injury; and for a week or ten days no change may be observed, at least in fractures in the adult long bones; and here, at once, is a point of contrast with the consequences of fracture in the lower animals; for the specimens, (exhibited,) showing the consequences of fracture of the tibia in rabbits six, ten, and fourteen days after the injury, prove that a perfect cartilaginous callus is in them formed in a shorter time than would elapse before the commencement of any distinct reparative process in man. For contrast, one may notice the unchanged state of the periosteum round the broken human bones; for this, in ordinary cases, is neither raised by deposit beneath it, nor in any way altered—except, it may be, by slight thickening—during the whole healing of the fracture. The first new material produced after simple fracture consists of the lymph and serum, which are effused in consequence of the inflammation that the violence of the injury excites. But these, as in the repair of other subcutaneous injuries, are presently overwhelmed and enclosed (as the effused blood also is) by the more proper reparative material. How this is placed I have already said. In a plan, wherein one cannot overlook the evidences of particular design and of appropriate purpose, it is inlaid between the fragments, wherever, when the limb comes to be used, the most new bone will be necessary for its strength. Thus, it may take the various forms of groins and buttresses, arches, beams, or bridges, according to the mode and degree of displacement of the fragments. Thus placed, its development proceeds. I cannot tell the conditions which will determine, in each case, the route of development towards bone that the new material will take; nor whether the differences that may be observed are to be ascribed to the seat or nature of the injury, or to the condition of the patient. All these things have yet to be determined; and I believe that years of patient and well-directed investigation will be requisite for them. I can do little more than point out the modes in which the ossification may be accomplished.

First, it may be accomplished through perfect fibrous tissue. Thus I found it in a case of fracture of the lower part of the femur, and in a fracture of the radius; thus, too, I think, whatever new bone formed after fractures of the skull is developed; and thus, too, one may find, in the neighbourhood of fractures and other injuries of bone, ossifications of inter-osseous fibrous membranes, and of the tissue of the periosteum, or just external to it.

But, secondly, the bone may be formed by ossification of the fibrous tissue in a rudimental state. And this rudimental state may be that of either nucleated cells, or nucleated blastema. Through nucleated cells, as the embryo forms of fibrous tissue, bone is formed when granulations or inflammatory effusions ossify. The process may be often seen in the union of compound fractures, or of simple ones, when much inflammation has been excited; but, best of all, the ossification of nucleated cells, in granulations, may be observed when bone is formed in the mushroom-shaped mass of granulations that is protruded through the medullary canal of a bone sawn across in an amputation.

The ossification of nucleated blastema, such as I have described as a rudimental form of fibrous tissue, may also be seen in simple fractures; and my impression is, that it is the ordinary mode of ossification in simple fractures of long bones that unite well and quickly. In such a case, in a fracture of the tibia, I found, in long-continued examinations, that the bone is formed without any intermediate state of cartilage; a finely and very closely granular osseous deposit taking place in the blastema, and gradually accumulating so as to form the delicate yet dense lamellæ of fine cancellous tissue. The nuclei of the blastema appeared to be enclosed in the new-forming bone, and I thought I could trace that they became the bone-corpuscles; but I could not be sure of this, nor, indeed, could I, in either this or any other examination, satisfy myself that the origin of these corpuscles is in any structures previously existing in the soft or unossified tissue. Their first appearance in the forming new bone is too obscure, I think, to warrant any positive opinion; neither could I trace how the nucleated blastema, or other structure which is included within the new cancelli, is transformed into the latter and more perfect medulla; only, one sees fatty matter gradually accumulating. Such are instances of the ossifications, for the repair of fractures, that may be accomplished through fibrous tissue; and all these are possible without the intervention of the smallest portion of cartilage. But

perfect cartilage, with its characteristic homogeneous intercellular substance, and its well formed cells, and all the characters of the purest cartilage, may be produced. In youths and adults I have found only varieties of fibrous cartilage; but these have presented numerous gradations of structure, from the fibrous towards the perfect cartilaginous structure. In different specimens, or sometimes even in different parts of the same, the reparative material may display—in one, fibrous tissue, with a few imbedded corpuscles, like the large nearly round nuclei of cartilage cells; in another, a less appearance of fibrous structure, with more abundant nucleated cells, having all the characters of true cartilage cells; and in a third, a yet more nearly perfect cartilage. Through any of these structures, and apparently by the same method through all, the reparative new bone may be formed. Its corpuscles, being first of simple round or oval shape, and then becoming jagged at their edges, subsequently acquire their canals, which appear to be gradually hollowed out in the preformed bone as minute channels communicating with one or more of the corpuscles. The laminated canals for blood-vessels, I think, are later formed. At first, all the new bone forms a minutely cancellous structure, much like that of the fœtal bones in their first construction; but this gradually assimilates itself to the structure of the bones that it repairs, while its outer portions assume a compact laminated structure, and its inner or central portions acquire wider cancellous spaces and a more perfect medulla. But, in regard to many of these later changes in the bonds of union of fractures, there are so many varieties in adaptation to the peculiarities of the cases, that no general account of them can be rendered. Only, specimens and drawings show the most striking evidences of design in the adaptation of the reparative process to the particular exigencies of each case; so that it might be said, with complete truth, of every instance, that whatever is necessary, whatever may best repair the damage, that is done.

ORIGINAL CONTRIBUTIONS.

RETROVERSION OF THE UTERUS AS A CAUSE OF STERILITY.

By EDWARD RIGBY, M.D., &c.; Senior Physician to the General Lying-in Hospital; Examiner in Midwifery in the University of London.

Mrs. P., aged 23; married three years; never pregnant.

March 4, 1846.—Blanched, anæmic, exhausted, pulse feeble, pupils dilated, vertex headache, constant retching, much gastric derangement. Has passed considerable quantities of dark brown matter from the bowels, and had vomited blood also from the stomach. Complains of much pain at the lower part of sacrum. Has been suffering from menorrhagia ever since her marriage, but latterly the catamenia have become extremely scanty; they ought to have appeared five or six days ago, instead of which the above symptoms of hæmorrhage from bowels came on.

Examination par Vaginam.—Os uteri forwards; cervix passing backwards, tense, swollen, but not very tender; a globular mass can be felt behind, into which the uterine sound passes, taking a course backwards and downwards, showing it to be the fundus uteri, which is retroverted. I replaced it before I withdrew the sound.

℞ Hydrarg. chloridi, gr. ij.; morphiæ hydrochlor., gr. ¼; h. s. s. et repet. 6 tis. horas ad tertiam vicem.

℞ Acidi hydrocyanici (Scheele) ♏ xx.; acidi hydrochlor. dil., acidi nitrici dil. aa. ʒii.; syrupi aurantii, ℥i.; aquæ cinnamoni, ℥i. M. ft mistura cujus sumat cochl. med. j. ter die ex aqua.

℞ Magnes. sulph. ʒi.; acidi sulph. dil. ♏ viii.; Syrupi rhœados ʒss.; aquæ menth. pip. ℥i. M. ft. haust. o. m. s.

March 31.—Has been much better, and has regained her strength. She has had no hæmorrhage from the bowels since, and the catamenial period has just passed without any appearance of the menses; is going into the country.

The menorrhagia, which had so seriously reduced her, might have been an effect of the uterine displacement, as it is well known to be an occasional consequence of retroversion; but the displacement does not appear to have existed in any severe degree until latterly, and had probably been aggravated by the debility and loss of tone produced by the hæmorrhage.

A considerable amount of gastric and intestinal derangement also existed, but how long this had been the case, and whether it was habitual, I had not the means of ascertaining. In many of these cases it is extremely difficult to decide which is cause and which is effect, for what at one period has been an effect at another re-acts as a cause. I had not an opportunity of seeing my patient again, nor have I heard from her since, which I wished to have done, as, with improving health, the non-appearance of the catamenia, gave rise to the suspicion that pregnancy might possibly have taken place.

Mrs. W., aged 29; married four years; never pregnant.

Nov. 25, 1847.—Pale and delicate; complains of a sensation in the lower part of the abdomen of a "solid lump," as she calls it, which, at times, is forced low down into the pelvis, producing great pain both behind and in front. Much leuchorrœa; the bowels are confined, and she feels an obstruction in the rectum when she tries to evacuate them, the fæces being flattened; her general health tolerably good.

Has always suffered from dysmenorrhœa, the pain coming on for one, two, or even three weeks, before the appearance of the discharge, which, although scanty, greatly relieves her. Whilst the pain lasts, she feels very sick.

About nine years ago she had an attack of menorrhagia, which lasted for two months, and another at the age of fourteen; but she did not suffer the very severe pain until she was eighteen.

Examination per Vaginam.—Fundus retroverted and much swollen; uterine sound passes at least three inches; the posterior wall is thickened.

Pil. hydrarg.; extr. coloc. co. aa gr. v., o. n.

Let her wash out the bowels with a large enema; let her take a teaspoonful of bran in some warm milk at night, and use the prone position as much as possible.

I am unable to give any further details of this patient, as I have not seen her since; but the case presents several points which are interesting.

I should presume that this has been a case of retroversion from an early period of life; at any rate, coeval with the first attack of menorrhagia, which she had at fourteen; that she was probably disposed to it by constipation, but that the displacement was not produced until the uterus had become more bulky and heavy by incipient menstruation. My reasons for coming to this conclusion are, that she had suffered more or less from dysmenorrhœa for many years; that it was of the obstructive species, as shown by the lengthened attacks of pain continuing for some weeks before each menstrual period, and by the immediate relief which she experienced on the appearance of the discharge. Examination with the uterine sound showed that the canal and the cervix were not contracted, but that the fundus having been forced downwards and backwards, the canal at its upper and narrowest part had been considerably curved, and thus the exit of menstrual secretion obstructed until sufficient accumulation in the uterine cavity, and consequent uterine action, had occurred to expel it.

The distance to which the uterine sound passed, viz., three inches, showed that the cavity was enlarged, a result probably in the first instance of constant distension, and latterly from increase of fibrous tissue, as indicated by the thickened condition of the posterior wall. The sense of pain and obstruction during the passage of fæces, and their flattened appearance, showed that the fundus pressed firmly against the rectum.

The two attacks of menorrhagia were probably owing to ovarian irritation connected with the displacement of the uterus, and also to the obstruction which this produced to the returning circulation.

As in the former case, so here, effect after awhile re-acted as cause. Constipation, probably, in the first instance, produced the retroversion, and afterwards the pressure of the fundus upon the rectum produced constipation.

The only treatment required was to diminish, as far as possible, the pressure of the intestines upon the uterus, and give the patient such a position as should induce the large and heavy uterus to incline forwards by its own weight. Besides the simple pill which I prescribed, I recommended her to take some bran in milk. This, like brown bread, acts very effectively on habitually costive bowels, not merely as a mechanical irritant; but also, in great measure, by preventing the feculent mass from becoming coherent, and consequently indurated. The large enema is also a most effective means in these cases, and frequently succeeds in dislodging accumulations of long standing; for a remarkable instance of which I may refer to Mrs. P.'s case in this Journal, Jan. 1845. The prone position was well adapted for this case; but, how far she persevered in the use of it I am unable to say.

Mrs. F., aged 28; married six years; never pregnant.

March 1, 1847, Brunette.—Complains of a constant sensation of weight in the pelvis, constipation, gastric derangement, and much languor; continual headache of a neuralgic character; hæmorrhoidal congestion; turbid urine; considerable irritability of bladder, and occasional severe strangury; leucorrhœa. Suffered severely from dysmenorrhœa. The pain commences slightly at the half-way period; it gradually increases as the time approaches, and is at its height two or three hours after the discharge has made its appearance. The discharge is very dark, with clots and exudations. The acute pain is across the symphisis pubis, extending to the left groin and thigh. The neuralgic headache generally follows the cessation of this pain. Has noticed these various symptoms from five to six years, during which she has gradually lost flesh. She remarks, that the irritability of the bladder is worse at the commencement of a catamenial period, and that she feels relieved by lying on her stomach.

Examination per Vaginam.—Os externum very small. Fundus uteri can be felt in the recto-vaginal pouch. It is very tender to the touch. The uterine sound passes readily into it, and I returned it to its natural position.

℞. Extr. aloes aquosi, ℈ii.; extr. hyoscyami, ℈iss.: mastiches, gr. xij.; misce, ft. pil. xx.; sumat j. ij. h. s.

℞. Magnesiæ carb., gr. xv.; mannæ, ʒiss.; sp. myrist., ʒss; aquæ carui, ℥iss.; mist. ft. haust. primo mane sumendus.

The above case and the one preceding it present many features in common. Two young women, married some years, without the slightest indication of conception having taken place, both suffering from dysmenorrhœa more or less of an obstructive character, which, as well as the sterility, in great measure depended on the retroverted state of the uterus. In this last case, the pressure of the displaced organ appears to have been more constant, and anteriorly than posteriorly, considerable irritability of the bladder being produced, which was occasionally aggravated into severe strangury. There were also more decided marks of ovarian suffering, as shown by the pain in the left groin extending to the thigh, and by the clots and exudations which were mixed with the catamenia; the disposition, also, to nervous or spasmodic pain coming on after the discharge had commenced, and the metastatic headache of a neuralgic character, which followed the cessation of the dysmenorrhœal pain, were probably connected with the ovarian affection. The relief, which the patient had found she could obtain by assuming the prone position, was an interesting fact to me at the time, because I was only coming to the conviction, that it might prove a valuable means for throwing the fundus forward in retroversion, where it was undesirable to use the supporter.

REMARKS ON AN OPTICAL EXPERIMENT,

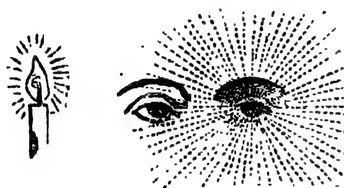
ADAPTED AS A MEANS OF ASCERTAINING THE RELATIVE POWERS OF THE EYE, AND INDICATING THE FIRST ONSET OF MORBID CHANGES INTERFERING WITH VISION.

By J. D. MACDONALD, Esq., R.N.; M.R.C.S.

It is a fact but little observed, that when a stratum of dust is laid upon the surface of a mirror, each particle and its reflection so lie, one with respect to the other, that a line drawn through them both, will be, in every case, as the radius of a circle, whose centre is in the pupil of one of the observer's eyes as seen in the glass; so that an appearance of rays is thus produced, seeming to emanate from that point. The matter in itself is trivial, but, from what follows, it will be found to afford a delicate test for discovering the relative strength or visual capacity of one eye, compared with the other hitherto a desideratum in ophthalmic surgery.

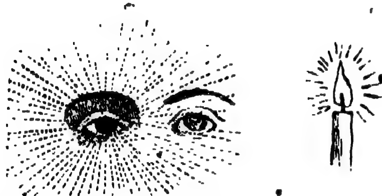
If the right eye be illuminated by a candle while the left remains in shadow, the experimenter will perceive, by looking into a mirror, prepared as above, that the irradiation proceeds from the pupil of the shaded eye; and this without reference to its position.

1.



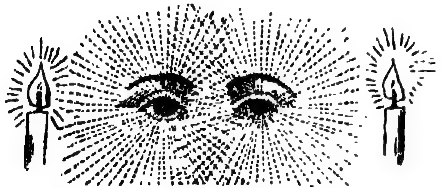
Placing the light on the opposite side (the left), the physical circumstances are altered, and the appearance is just the reverse of the former case.

2.



But, should two candles be employed, one on either side of the observer's head, the lines formed by the dust particles, and their reflections, will either seem to irradiate from both eyes, as centres, or to spread from each side mutually across the opposite eye.

3.



In explanation of these facts the writer finds, that when any circumstance incapacitates either eye from discharging its functions perfectly, (as the light in the first and second experiments cited,) the unaffected organ appears to have dominion, and this is manifested by the radiation of the particles seeming to take place from its pupil in the mirror, and overpowering those of the other eye. In consequence of the sympathy existing between the optic nerve and iris, when a strong light falls upon the latter, the pupil diminishes in size, so as to regulate the amount of light impinging on the nerve, according to its sensibility. When one eye is thus influenced, its powers are lessened considerably, for, while it is directed to the image in the glass, the iris cannot admit a sufficient amount of light to impinge upon the retina, from that quarter, having a much stronger stimulus in active operation to contend with from another. This state of things is quite reversed in a shaded eye, because the iris is free from the action of a powerful light, and has only to discharge its office in allowing the ingress of as many rays from the dust particles of their reflections as the delicacy of the optic nerve can bear, which fully accounts for the strength of the impression overpowering that of the weakened eye.

When two candles are employed, as in the third experiment, both eyes are equally influenced, receiving a similar distribution of light, and are, consequently, alike fitted (*cæteris paribus*) for the performance of their respective functions, so that the lines necessarily appear to irradiate from both eyes.

Now, the practical application of the experiments alluded to, (if properly conducted,) is this, that the least inequality of the powers of one eye when contrasted with those of the other, is instantly discovered, and the earliest onset of cataract, amaurosis, &c., is at once detected; for, if both eyes are similarly situated before a light which falls equally upon each, the patient will himself discover where the defect lies, independent of any other proof, agreeably to the explanations above given.

A very close relationship exists between the co-ordination of the muscular movements of the eye-balls and the function of adaptation to distance, and also an intimate connexion between this latter and the condition of the retina. Thus, if the retina of one eye be in any state of debility, the adaptive changes do not take place equally in both eyes, and, as a necessary result, the co-ordination of the muscular actions which so wonderfully effects the concentaneous movements of the eye-balls is disarranged, and strabismus (or squinting) is, under such circumstances, satisfactorily accounted for. If, then, in consequence of debility of one of the retinæ, whether from disease (as is usually the case), or from whatever cause, there is a tendency to squint, the eye so disposed may be instantly detected by the foregoing experiment, in which it also assumes its wonted position. This test has been successfully tried by the writer in the case of an individual who had been subject to an occasional strabismus, frequently resulting from long concentration of the eyes on one plane, as in reading. There was a loss of co-ordination both in the muscular movement of the globes and the power of adaptation to distance, and, in short, a want of balance in the tone of both organs. On looking into the mirror, as before explained, with an evenly adjusted amount of light on each eye, he observed the rays emerging from the left eye to cross and obliterate those from the right, which indicated to his own feelings and convictions, that the latter was the organ affected.

The advantage of such a test as the present to the ophthalmic surgeon, must be obvious, when we consider that the sound eye has been frequently operated on in cases of strabismus, in consequence of incompetent diagnosis.

56, Berners-street.

MEDICAL SCHOOLS AND UNIVERSITY TOWNS OF GERMANY.

By Dr. BUSHNAN.

(Continued from page 118.)

WURZBURG.

Of the Medical Schools of Bavaria, the first is that of Wurzburg. It was formerly equal to Prague, and still deserves the next pre-eminence, not only on account of its antiquity, and the high character uniformly sustained by its Professors, but also as regards the general facilities it now affords to students.

Wurzburg was of old the metropolis of the Franconian Bishops, who, as princes of the empire, and most pugnacious members of the Church Militant, formerly exercised great influence in Germany. For more than a thousand years it was their fortress and their residence,—a fact which will enable the visiter to account for the number of churches, which cannot fail to strike his eye. As may be expected, the Romanist religion predominates, and, perhaps, in no other town of His Most Royal Majesty of Bavaria's dominions does proselytism, prejudice, and bigotry, exercise so decided and palpable an influence, or the priest so extended and subtle a sway, as in the good old University town of Wurzburg. It is beautifully situated on the Maine, and contains a population of about 27,000. The [illegible] view of it is obtained from the Marienberg or C[illegible]el, on the left bank, from which point the town presents an imposing appearance. The picturesque and prettily-wooded hill, producing the grape, from which is made the celebrated Stein wine, forms a lovely background, and the meanderings of the silvery Maine impart to the landscape an additional attraction. The Citadel itself is said to occupy the site of one of the fifty Roman castles built by Drusus in Germany. Its present remains consist of a donjon and other usual indications of a feudal edifice, not unmixed, however, with several characteristic features of modern innovation, in order to adapt it to the objects or convenience of subsequent possessors. The whole is surrounded by bastions, &c., on the principles of modern fortification, and each portion of these bears the arms or effigy of the warlike Churchman under whose rule it was constructed.

The University was founded in 1403, and was repaired and restored by Bishop Julius, the founder of the Hospital, in 1582. It is more frequented by foreigners (a) than any other of the Bavarian schools. The average number of students for the last three years has been about 480, of whom from 160 to 180 are Medical.

Wurzburg has possessed many celebrated Professors, among whom we need only refer the reader to Siebold, Jarger, Schoenlein, Textor, and Outrepont; and every department of Medical science is well and ably filled. Before I speak further, however, about the Professors, let me describe more particularly the Institution to which they are attached—I mean the Julius Spital. It is an edifice of palatial extent, originally erected by Bishop Julius, of Maspelbrunn, but repaired and restored, after an accident by fire, in 1701. It forms a magnificent asylum for the aged, the sick, and the poor, and is, at the same time, the chief School of Medicine. It is richly endowed, possessing a capital of at least 6,000,000 florins—about 500,000*l.* sterling; and amongst the estates belonging to it are those producing the finest sorts of wine for which the neighbourhood is celebrated. The Hospital forms a quadrangle, containing 30 wards and 400 beds. The arrangements throughout are most praiseworthy, and the whole establishment is remarkable for its extreme cleanliness, a recommendation which German hospitals do not always so eminently possess. It fails, indeed, in no arrangement that can tend to promote either its convenience or efficiency, for it has its own mill and bakehouse, ample cellars and storehouses, dispensary, dissecting-rooms, laboratory, botanical garden, library, and church; the latter a very neat little building, supplied by two clergymen, who reside in the Hospital. The number of patients during the last year was upwards of four thousand. The division and appropriation of the building is as follows:—

The ground-floor comprises the rooms for ophthalmic patients, the auditorium, and dwellings for the various officers of the Institution, a spacious, well lighted, operating apartment, and wards for cutaneous and syphilitic disorders. The medical clinic is under the charge of Professor Marcus, a pupil of Schoenlein; the hours of attendance are from eight to nine, and the fee only 12 florins, 1*l.* sterling, for the semester. (b) The surgical clinic, including

(a) By the term foreigner, whensoever it be used throughout these papers, is implied, not only natives of other lands, but *Germans* also, born out of that particular section of their country in which the University under consideration is situated.

(b) A semester, or session, as calculated in this country, means a period of six months. They are distinguished as summer and winter semesters.

the cutaneous and syphilitic diseases, is directed by Professor Textor, a skilful surgeon, of acknowledged reputation. This costs, also, 12 florins for the session.

In one of the wings of the Hospital is the Lunatic Asylum. All convalescents are placed together in commodious apartments; those, however, whose cases are more severe, are imprisoned—we can find no better term for it—*in single and narrow cages!*

An assistant Physician occupies an apartment attached to the Hospital ward, with whose superintendence he is charged. Here he gives private lectures, on chosen subjects, at a charge to each pupil of from 10 to 15 florins.

The dissecting-house is attached to the principal building, and contains a theatre and an excellent pathological collection. A series of smaller rooms serve for private courses, and for the examination of all persons who die in the Hospital. The whole building is well supplied with water, and great attention paid to cleanliness.

It has been found desirable to appropriate to more general purposes the rooms now used for dissections and anatomical lectures; and an extensive plot of ground, immediately behind the Hospital, has lately been purchased, for the erection of a still more spacious and convenient building for anatomical purposes only.

The anatomical students are under the care and tuition of Professors Munz and Siebold. The terms, 20 to 24 florins, are high for this country.

The courses in comparative anatomy, as well as physiology, are held by Koellicker, who was called from Zurich to re-organize and direct the physiological Institute.

Immediately opposite the dissecting-house is the botanic garden, in which is also a building containing a lecture-room, the pharmaceutical museum, and the laboratory. Professor Rumpf is the director of the latter, and Professor Leiblain has the superintendence of the garden.

The lectures on organic chemistry are delivered by Professor Scherer, in this department, perhaps, but little inferior to his teacher Liebeg. The study of pathological anatomy has sustained a great loss by the recent death of Professor Mohr.

Not far from the Hospital is the Maternité, containing only thirty-five beds. Its limited size is, however, a recommendation to the student, as every patient is more carefully attended, and the case scrupulously noted. The apartments are particularly clean and well ventilated, and a small, but well laid-out, garden, which runs round the building, affords the women opportunities both of air and exercise. One room contains a collection of instruments, and cases of deformed pelvis. Another is appropriated to midwifery lectures. Every pregnant woman, on entering the Maternité, is consigned to the care of a student, who enters her name and address, notes the particulars of her case, and attends her delivery. The establishment is under the direction of Professor Kiewisch-Rotterau; the course costs 12 florins.

Besides the medical, surgical, and obstetric clinic, there exists a Dispensary, where patients are attended by students, or visited at their own houses, under the superintendence of a Professor. Here the student soon learns to acquire a certain degree of self-dependence, being obliged, in the first instance, to attend the patients alone, the principal medical man only visiting them at certain periods, or when his presence is especially required by the attendant pupil, who must report every day a concise account of the patient under his charge. The director of this establishment is Professor Rinecker, and the terms for the course is twelve florins.

Lectures on the disorders of children are given by Professor Rinecker, under whose superintendence are also the Hospital, the Ehchaltenhaus (Asylum for Aged and Infirm *Married People*), the Burgher Hospital, and the Lazzaretto. The three former are appropriated to the aged and infirm poor; the latter serves for the reception of syphilitic and cutaneous diseases.

The zoological, geological, and Mineralogical Museums, and the Library, are in the University.

In some of the Medical Schools of Germany, the degree M.D. is easily obtained by Englishmen, and, indeed, by foreigners of any country. (a)

In Wurzburg, the degree can be obtained by foreigners only after examination. The expense amounts to about 300 florins, or twenty-five pounds sterling.

There is no doubt that student life in Wurzburg is pleasant enough: there is no want of balls, concerts, and general society during the winter, nor of the usual out-door enjoyments of the country, together with lovely walks, pleasant rides, and boating into the bargain, if desired. It is, moreover, not difficult to become acquainted with the inhabitants, if the stranger conduct himself quietly and respectably. If fond of music, twice a-week, the classical works of Brethoven, Mozart, Haydn, Spohr, Mendelsshon, and other great masters, are admirably executed by Doctor Freolich's scholars. A well furnished room costs from six to eight florins per month. Dinner is to be had in the various hotels or private eating-houses, at from eighteen to thirty kreutzers. There are five University clubs, but an Englishman need not attach himself to either of these, unless he be so disposed.

Although French is very much spoken in Wurzburg, it is, nevertheless, highly desirable that any one going thither to reside, should possess some knowledge of German, which will tend greatly to promote his comfort, amusement, and means of instruction. If, then, his stay is not a happy one the fault will most certainly be with himself, for we know of few pleasanter places, nor any that afford more agreeable facilities to the medical pupil, than the venerable and beautifully-situated old town of Wurzburg.

ON SCARLATINA.

By J. W. TRIPE, M.D., M.R.C.S., and L.A.C., London.

(Continued from page 6.)

B. c. d. It has long been believed that variations in the electrical state of the air have produced epidemics, or rather have converted sporadic into epidemic diseases. For instance, it has been stated that cholera took its rise in consequence of a violent storm, which was attended with unusual electrical phenomena; or, that certain alterations (which have not been demonstrated) in the electrical condition of the air assisted in its spreading. That alterations in the activity of the electricity possess an influence on disease, there can scarcely be any doubt; and that this influence preponderates in those diseases which depend on the absorption of a morbid poison into the system, whether that poison be contagious, or infectious, or both, there can also be but little question. The great length to which this memoir has already extended, will prevent the same plan being adopted in the consideration of this division of our subject, but I hope to show that an active condition of the electricity of the atmosphere is much more favourable to life, as regards scarlet fever, than a passive condition of it. It has been remarked, in the reports of the Registrar-General, that the last quarter of the year 1847 was characterized by an unusually small number of manifestations of electricity, and it is also equally as well known that the present epidemic of the disease commenced at the same time. It will also be shown that the whole of this year has been attended with but comparatively few manifestations of electricity, especially in the latter half of the year, during which period the disease has been so rife.

But in considering the variations in this agent of disease, we must not forget that other agents have been shown to have favoured the spreading of the disease; for, in the first place, the temperature in February, March, April, and May was above the mean, especially in February, April, and May, in the two former of which it has been shown that a low temperature is unfavourable to the progress of the disease. It has also been shown, that a great degree of saturation of the air with aqueous vapour, —in other words, a high degree of the mean humidity of the atmosphere—is also unfavourable to the spreading of scarlatina, and *vice versa*; and, on examining the mean humidity of the atmosphere for this year, we find it to have been below the mean for the nine years under consideration without one exception. These facts must be born in mind when considering the influence of electrical variations:—

FOR THE METROPOLIS.

—	Electricity.			Deaths from Scarlatina.	
	Positive.	Negative.	No. of days in which no Electricity was shown.	Total No. of Deaths, Corrected.	No. in each Month to 100 in the preceding, Corrected.
January.					
1846	49	6	2	73	96
1847	66	—	1	63	72
1848	62	1	—	180	96
February.					
1846	64	6	—	91	114
1847	54	1	2	66	101
1848	41	7	3	195	108
March.					
1846	52	6	1	60	66
1847	72	1	—	48	73
1848	31	14	4	193	99

In five of these nine months the electricity in the atmosphere was more active than ordinary, and in four it was unusually passive. In the five months in which the evidences of free electricity were unusually great, the mortality was unusually small in four and high in one, whilst in the four in which the free electricity in the atmosphere was unusually small, the mortality was unusually great in three, and smaller than ordinary in one. The mean of the comparative mortality for the months that presented an unusually large number of instances of free electricity, amounted to 88, and for those months which showed a small number, to 91. It therefore appears that an active state of the electricity of the air assists in restraining the progress of scarlatina during the winter quarter, and *vice versa*:—

FOR THE METROPOLIS.

—	Electricity.			Deaths from Scarlatina.	
	Positive.	Negative.	No. of days in which no Electricity was shown.	Total No. of Deaths, Corrected.	No. in each Month to 100 in the preceding, Corrected.
April.					
1846	56	12	—	58	96
1847	65	15	—	47	98
1848	32	12	2	190	98
May.					
1846	61	8	1	63	108
1847	68	7	—	73	160
1848	44	—	2	222	117
June.					
1846	69	5	—	59	91
1847	52	8	—	44	60
1848	33	8	3	316	142

In six of these nine months the electricity was unusually active, the comparative mortality being smaller than ordinary in four, and greater than usual in two; whilst in the three in which the electricity was unusually passive, the comparative mortality was small in one, and great in two. The mean of the comparative mortality for the months in which the electricity was active was 103, and for those months in which it was unusually passive, the mortality was 119. It seems as if the more frequent and the more powerful were the evidences of free electricity in the at-

(a) In consequence of some observations on this particular which have reached us, with regard to our former paper on Prague, we may here observe, that Prague forms altogether an exception to this. The examination for a Doctor's degree is there very severe, and it is not usual to grant that diploma to *any foreigner*. We heard of a case where an Englishman, some years ago, offered the fees, and also a thesis in proof of his qualification, when he was dryly told, that "the production of his English certificate as M.D. would be sufficient without his thesis, or any further examination." Of course, the Prague degree was never obtained!

mosphere, the less did the mortality from scarlatina increase, and the contrary. This conclusion is the same as that which has been obtained for the winter quarter.

FOR THE METROPOLIS.

—	Electricity. Positive.	Negative.	No. of days in which no Electricity was shown.	Deaths from Scarlatina. Total No. of Deaths, Corrected.	No. in each Month to 100 in the preceding, Corrected.
July.					
1846	66	6	—	71	120
1847	65	1	1	63	143
1848	40	2	2	381	120
August.					
1846	49	6	2	59	83
1847	14	4	2	83	132
1848	40	4	2	438	114
September.					
1846	25	4	5	64	
1847	31	4	6	147	
1848	21	2	13	604	

The connexion between the frequency with which evident traces of electricity were detected by the instruments, and the mortality from scarlatina becomes much less marked in this quarter than in the preceding, as, in the five months in which the electricity was less in equilibrio than in the others, the comparative number of deaths was twice higher and three times lower than ordinary; whilst in the four in which it gave less traces than usual, the mortality was plus three times and minus once. The mean of the comparative number of deaths for the former six months was 127, and for the latter three 129. The balance of evidence is, therefore, slightly in favour of an unusually active state of the electricity of the air diminishing the number of deaths from scarlatina. There was, however, a marked exception to the rule in September, 1847, when the increase in the mortality from the disease was unusually great, whilst the equilibrium of the electricity of the atmosphere had been more frequently disturbed than in any of the other months. We may, perhaps, however, account for this by the temperature for this month being lower than usual, and the main humidity of the atmosphere being also minus the average, both of which have been shown to assist in increasing the number of deaths from scarlatina during the month of September.

FOR THE METROPOLIS.

—	Electricity. Positive.	Negative.	No. of days in which no Electricity was shown.	Deaths from Scarlatina. Total No. of Deaths, Corrected.	No. in each Month to 100 in the preceding, Corrected.
October.					
1846	27	14	3	119	186
1847	14	1	16	230	119
1848	9	4	23	697	115
November.					
1846	22	1	13	112	94
1847	4	1	23	257	116
1848	2	—	27	507	73
December.					
1846	60	3	2	86	76
1847	35	2	6	188	73
1848	21	4	20	134	85

The results obtainable by a consideration of this Table are directly opposed to those arrived at in the treating of the other months, and these months are very remarkable for the variations in the frequency with which the electricity manifested itself. If we consider the absolute mortality, we shall see that the deaths were in excess in those months in which the electricity of the atmosphere was but little manifested; and that they were in a minus in the months in which the electricity was unusually active. But the contrary of this is obtained by comparing the electricity with the comparative mortality, when we see that the electricity was active in three months, and passive in six; the comparative mortality in the three former being twice in excess, and once in a minus; and in the six latter, being twice in excess and four times in a minus. The mean of the comparative mortality for those months in which the electricity was unusually active was 119; and for those months in which it was unusually passive the mortality was 102.

Another plan, to consider the influence of electricity on the disease, may be adopted, viz., to take the absolute mortality in the month of January of each year as the unit for that year; to divide the total number by that unit, and to compare this result with the activity of the electricity. Thus, the number of deaths from the disease in January, 1846, was 73; in January, 1847, was 63; and in January, 1848, was 180; or in the following proportions: in 1846, 116; in 1847, 100; in 1848, 286. The total number of deaths in the year 1846 was 928; in 1847, 1,433; and in 1848, 4,756. The electricity existed in a free state in the atmosphere in the following proportions: in 1846, 731; 1847, 655; and in 1848, 463. If the total number of deaths in each year are divided by the number of deaths in each January, or by their equivalents, the result will be as follows:—

FOR THE METROPOLIS.

Year.	Deaths from Scarlatina.	Evidences of free Electricity.
January.		
1846	928 ÷ 116 = 8·00	
1847	1,433 ÷ 100 = 14·33	
1848	4,756 ÷ 286 = 16·60	

The greatest proportionate, as well as the greatest actual, increase in the mortality from this disease, occurred in the year in which the electrical equilibrium was least disturbed; the next greatest increase happened in the year which presented the next smallest evidences of free electricity; and the smallest increase occurred in that year in which the electricity was unusually active. Taking these years as our standard, we may say, that frequent disturbances of the electrical equilibrium are very favourable to health as regards scarlatina; whilst an inactive state of the electricity favours the assumption of the epidemic form.

B.d. The weekly and quarterly Reports of the Registrar-General afford irrefragable proof, that bad ventilation, imperfect drainage, and other imperfections which afford miasmata from decomposing animal and vegetable matters, are highly prejudicial to the progress of scarlet fever. I have already (p. 109) briefly alluded to this subject, and have mentioned the exceedingly severe cases that I have met with in ill-drained localities. Mr. Liddle, late Medical Officer to the parish of Whitechapel, informs me, that one-fourth of the total number of deaths that happened amongst the poor under his care, during the last epidemic, occurred in one or two small courts which are the worst drained in his district. The result must not, however, be attributed to the bad ventilation and drainage alone, but due allowance must be made for the depressing and debilitating effects of poor food, scanty clothing, and of the general neglect, but too frequently evinced by the poor towards their offspring.

The late Dr. Robert Williams, in his lucid and elaborate work on Morbid Poisons, observes, under the head of predisposing causes of scarlatina (p. 117), "scarlet fever has been observed to spread more universally, and with greater fatality, among the poorer than among the wealthier classes of society; and, consequently, it may be inferred, that bad diet, exposure, and the usually admitted train of debilitating causes, greatly predispose to the reception of this poison." It would be useless to quote the opinions of most writers on the subject, or to attempt to prove this position by reference to many very voluminous Tables which I have extracted, or compiled from those in the Annual Reports of the Registrar-General; but I cannot refrain from exhibiting one small Table which shows this point in a very strong light.

POPULATION ENUMERATED IN 1841.

	Metropolis and districts of 25 Towns.	District of 12 Counties.
Population	3,759,186	3,440,501
Deaths from Scarlatina in four years	14,267	6,300
Annual Mortality from Scarlatina to 1,000,000 living ...	988	478

This Table indicates, that in the metropolis, and in districts of twenty-five towns, having a population, at the census of 1841, of 3,759,186, no less than 14,267 deaths occurred from scarlet fever, its complications and sequelæ during four years; whilst in the same period of time, only 6,300 deaths from the same disease happened in twelve counties with a population of 3,440,501; or, taking the average mortality to 1,000,000 of living, we find that 988 died in the town districts, to 478 in the country districts. Can stronger proof be afforded of the evil results of overcrowding, bad ventilation, and bad drainage, than is here shown; for we well know, that as regards food, the children of the poor in towns are ordinarily better fed than the children of the poor in the country, and yet the mortality in the former was double that of the latter.

B. c. It is impossible to procure any data sufficiently extensive to show the frequency with which scarlet fever attacks persons of different age; but some approximation may be obtained from a consideration of those Tables of Registrars-General for the years 1842-46, which indicate the mortality from the disease at the different periods of life. These Tables are not deduced from the deaths in the whole of England and Wales, but from the deaths within the limits of the bills of mortality for the metropolis.

FOR THE METROPOLIS.

Deaths from Scarlatina, Years 1842-46.

Ages.	1/3	3/5	Total under 5 years.	5/10	10/15	15/20		Total above 20.
	2760	2176	5478	1856	306	78	7718	415

Deaths per Cent. from all causes, 1838-44.

		3/5	Total under 5 years.	5/10	10/15	15/20	Total.
20·625	15·504	6·516	42·645	1·189	0·473	0·690	44·997

N.B. 0/1 signifies, one year and under; 1/3 signifies three years and above one, &c.

This Table shows, that out of 8,133 deaths from scarlet fever, 7,718 occurred in persons who were under twenty years of age, and 5,478 in children who were under five years of age. It also shows, that although ordinarily, by far the greatest mortality at any age, (viz. above 20 per cent. of the total number of deaths,) happens in infants who are less than one year old, that but little comparatively of this very large mortality is produced by scarlet fever; and also, that whilst the total number of deaths decrease as the age increases up to three years, the mortality from scarlatina pursues an opposite course. It also shows, that by far the greatest number of deaths from this disease happen between the first and third birth-days, and next between the third and fifth. The next greatest mortality occurs in children who are under one year old, whilst in those who are above five, the mortality decreases as the age increases.

On comparing the number of deaths from scarlet fever, with the number of deaths from all causes, at the different ages, we arrive at very different conclusions from the above, as the greatest number of deaths from this disease, in proportion to the gross amount from all causes, occurs between the ages of five and ten; next, between ten and fifteen,

then between three and five; next between one and three; next, between fifteen and twenty; and, lastly, under one year.

We may say, that the gross mortality from scarlatina is greatest between the ages of one and three years; but that, compared with the total number of deaths from all causes, it is greatest between the ages of five and ten years.

(To be continued.)

BITE OF A RATTLE-SNAKE.

By ARTHUR BAILLIE, Esq., M.R.C.S. Lond.
The Missions of Upata, Venezuela.

Francisco, the subject of the case, was a strong muscular Indian peon, 45 years of age. He was about one hundred yards from the house when a rattle-snake wounded him. In a few seconds the pain extended up the limb, followed by loss of sight and a feeling of intoxication.

The people observed him throwing his arms about him in a strange and violent manner, calling for assistance, and saying that some animal had bitten him. Before they could reach the place he fell prostrate on the ground.

May 11, Friday, 7 p.m.—Not more than fifteen or twenty minutes have elapsed since he was empoisoned. He is supported between two persons, and is completely powerless, having no control over the upper or lower extremities; the countenance is livid, or darker than usual; appears in a lethargic state, requiring to be spoken to in a loud tone; but, when aroused, answers questions distinctly; complains of blindness, and severe pains in the *right* ankle, extending up the limb and all over his body. There are two small punctured wounds, situated perpendicularly an inch apart, equi-distant between the tendi-achillis and the external malleolus. The extremities are cold, and the pulse is quite lost at the wrists. I directed the wounds to be bathed with lime-juice, and administered Pulv. Ipecac. Comp., gr. x.

Half-past seven.—The drowsiness has disappeared; he is now able to converse with his companions, the extremities are warmer, and a very slow, small, thread-like pulse is distinguishable; shortly after he vomited with great violence, (he dined at six o'clock.) The bowels acted simultaneously, and his bladder expelled its contents. It appeared to me that an intense degree of gastro-intestinal irritation existed, manifested by spasmodic contractions of the alimentary canal and the bladder. Vomiting, tenesmus, and stranguary continued without intermission nearly two hours; the thirst was excessive, and the water he drank was immediately ejected, or passed in limpid urine. The quantity secreted was really surprising. Once I endeavoured to control the spasms, and gave him tinct. opii, ♏ 50, which was not retained.

Half-past nine.—The vomiting has ceased; complains of pain in the stomach and great thirst. Tenesmus and micturition disturbs him every few minutes. The extremities are not very warm, pulse fuller but slow. Rep. tinct. opii, ♏ 50.

Ten o'clock.—The pulse is improving, the extremities are warmer, and the pains are less.

Half-past eleven.—He has passed some blood with mucus, per anum, and has also expectorated about half an ounce more of a florid colour with the sputa; (a) he is extremely restless, has thrown off all his clothing, and rolls about in great agony. The pain is now concentrated at the epigastrium, the fingers are cold, and the general temperature of the body is diminishing; the pulse is smaller, slow, and sinking. Rep. tinct. opii, ♏60.

During the succeeding hour there was a gradual improvement of all the symptoms, and he finally ceased to answer me and fell asleep. The perspiration was suppressed from the commencement; the respiration natural, and, until the last hour, his voice was clear and sonorous.

12th, four a.m.—My patient is dressed and sitting in his hammock; the pulse is full and quick; he has been perspiring freely, and appears excited and loquacious. Ordered him some strong coffee with milk, and desired the people to leave him.

10 o'clock, a.m.—He has had some sleep, and is much better, complains of pains in the arms, and wounded ankle, which is a little swelled and tender. Says, that with the *right* eye, he is unable to see objects. Has lost the power of raising the upper lid, owing to the levator muscle being paralyzed. The conjunctiva is a little injected. There is a red zone a line and a half broad round the cornea. The pupil is extremely *contracted*, and the aqueous humour looks cloudy. The vision of the left eye is indistinct, as if a film was interposed before the object; the conjunctiva is less injected; the corneal zone is fainter; the pupil is of a grayish colour. To apply lime juice to the forehead and temples frequently. Diet, chicken broth.

13th.—He has passed a good night; the pains are relieved; feels shooting pains in the wounds; can see a little with the right eye. To have animal food, and remain quiet.

14th. He is considerably better. The amaurosis is rapidly disappearing; has been walking about the house with the aid of a stick.

15th.—He is quite well; the eyes have regained their natural appearance, and the vision is perfect. I saw him a month after in good health and condition; he still complained of slight pains or twitchings in the wounded part; and I observed he did not bear the heel firmly on the ground.

(a) I have been credibly informed that, in fatal cases, blood flows from all the natural orifices of the body.

FRACTURE OF THE SCAPULA.

By ALFRED EBSWORTH, Esq., Bulwell, Notts.

John Holland, aged 49, and Charles Wain, aged 60, were returning to their factory in a light one-horse cart, on the 16th of April, over the Bulwell forest, when the horse took fright, and ran away. It had not proceeded far before the wheel caught a sand-heap and overturned; fortunately the accident was observed from a distance by a framework-knitter, and on his arrival he found both men under the cart on their faces, and the projecting sides across the upper part of their backs, both being in nearly the same position. The fall stunned them so, they could give but an imperfect description of the occurrence. Their removal home and my attendance was simultaneous.

Holland presented the following symptoms. He was supporting the left elbow with his right hand, and the slightest alteration of posture produced excruciating pain at the top and back part of the shoulder. There was but slight alteration of form, no sinking of the joint. He had one fractured rib on the same side, causing pain on inspiration. He was so careful to retain his elbow in one position, I felt convinced fracture must exist somewhere. I began a minute examination of the clavicle; it was free; the head of the humerus was in its situation; the shaft firm. I grasped the elbow, and the patient his left hand, and then passed my fingers over the spine of the scapula. By very gentle movement I detected a fracture of the scapula extending right across the scapula from the supra-scapular notch, to the anterior inferior border. There was a great deal of extravasated blood about the fracture, preventing its ready detection.

The treatment I adopted consisted in applying a large leather plaster over the scapula. Then I stuffed the foot of a stocking, and placed the heel in the axilla, securing it by a bandage round the neck. The elbow was supported by a sling, and over this I passed a broad-rib bandage, which retained the arm firmly *in situ*, and also impeded the action of the ribs. Opiates were given to allay the cough, and the patient was supported in bed by a bed-rest. It was some two months before the bone united, and nearly four before he could raise his arm sufficiently to follow his usual occupation.

In Charles Wain's case the scapula was fractured much further back, and presented a wide gap to the feel, the broken portion being detached, and beneath were three or four ribs broken and penetrating the pleura. The patient I feared would not rally, so complicated did the injury appear; but he was one of those resigned, patient men who obey every injunction of their surgeons, and in the position in which I fixed his arm and body, he remained for nearly three weeks, and you could not have noted a deviation from it. This case I kept constantly under the influence of opium; and only procured a motion when absolutely necessary, for fear of disturbing the parts affected. At this time, August the 13th, the patient has recovered the entire use of his arm, though an over-exertion will cause pain. The broken portions are fairly united by bone, and you could hardly find out that fracture had existed, but for a slight depression on the spine of the scapula.

These cases are of rare occurrence, and I believe seldom happen but from direct violence to the bone itself. The neck, however, may be fractured, by force applied to the arm. The treatment is simple in the extreme. You place a stout pad in the axilla, throw the elbow back, and support it with a sling; and bind the arm to the side with a broad-rib bandage. A plaster over the scapula is useful, but not essential. For a long time the parts must be kept at rest, otherwise you will have a cartilaginous union, and a very incomplete motion of the arm.

FRACTURE OF BOTH CLAVICLES.

Isaac Shaycroft, collier, when at work at the Underhill Colliery, was struck by an immense coal on the right shoulder; and when this was removed, and I examined him at home, I found total inability to move either arm; he was almost doubled up, his thighs supporting his elbows, and his body bent forward. In themselves, fractures of the clavicle are not worth noting, and the complication only requires a remark here. It seldom occurs that both are broken at the same moment; then the patient places both arms across his body, and draws his thighs up to support these. In the treatment, you merely place pads in the axillæ, and support the elbows and arms with pillows. The patient can do nothing for himself for several days, so you have to feed him and attend to every want.

The Use of Glycerine in Deafness.—Amongst the many cases in which I have employed this remedy, the following may be interesting to the Profession:—

Mrs. Thorpe, of Bulwell, deaf for 18 years.—Can hear but very imperfectly in one ear, and not at all in the other; the membrana tympani destroyed, and a slight discharge oozing from the meatus. After the first application of glycerine, a marked improvement had taken place; she could hear better, and voices appeared much more distinct; on the third and fourth application she heard my watch tick plainly in one, and indistinctly in the other ear. I confidently looked forward to a cure. The sixth application she could hear *distinctly* my watch tick in *both* ears. I was delighted with the remedy, and looked forward to a provincial repute as an ear doctor; but, alas! the frailty of human hopes,—*my watch had stopped, I forgot to wind it up over-night!*

ON CHOLERA.

By R. B. RICHMOND, M.D.

Before stating the plan I adopt for the treatment of cholera, it is necessary that I should premise, for the sake of removing error and prejudice, that the benefit to be derived from the administration of a stimulant does not depend on the degree of the stimulation produced, but on its particular *quality*. For however general the effect of a stimulant may be, there is always some organ, or class of organs, on which its action more particularly falls, as, for instance, camphor on the urinary organs, or arsenic upon the gullet, &c.; and, with regard to many external applications which have been erroneously included under the general appellation of *counter-irritant;* their efficacy does not so much depend on their power, or strength, or the degree of rubescence they produce, as on the peculiarity of their action,—many of them being productive of an action *sui generis*, and exercising a specific influence on the organs over which they are applied, either by causing a *metastasis* of the diseased action to the surface, or by setting up an ac-

tion which is incompatible with that of the disease. Therefore, ought they to be called *local alteratives?* The plan to which I allude, is, on first seeing the patient, immediately to administer two or three glasses of good port-wine, put into a tumbler, and drank off cold and undiluted; then, if the case be severe, to order from 7 to 10 grains of calomel with as much Dover's-powder; and, at all events, every ten, fifteen, or twenty minutes, alternated with port-wine, a tablespoonful of the following mixture:—

℞ Spt. æth. nitrici; tinct. cardam. comp. aa ℥ i.; tinct. camph., tinct. gentianæ, tinct. zingib. aa ℥ i s.; tinct. benzoin. comp., tinct. rhei, spt. ammon. aro mat. aa ʒ ij.; tinct. catechu, vini ipecac. aa ʒi.; pulv. boratis sodæ, oxidi bismuthi, aa ℥ i.

Sig. To be taken, as directed, in a little cold water, shaking the phial.

The Profession will excuse me for presenting them thus with a *farrago;* but I always find that the greatest benefit is to be gained by a judicious combination of medicines, and by attacking the disease at all points. Besides the use of soothing and astringent remedies for the internal surface of the intestines, you are not likely to check the increased determination of the fluids then without injury, unless, at the same time, you open the channels of the skin and the kidneys.

In common bilious diarrhœa, or cholera, one teaspoonful only of the same mixture is to be given every hour, or oftener, as the case may require, and alternated with a little burnt brandy and six or eight drops of laudanum added, at one time, or with a glass of port wine at another. The same dose of the mixture may also be given after each evacuation.

In dysentery, a tablespoonful is occasionally to be administered, alternated with half a teaspoonful of Gregory's powder in a little cold water; but, in this case, both brandy and port wine are inadmissible, unless in some chronic states; but good ale or Marsala wine may, in dysentery, be taken with advantage.

In severe cases of cholera, if the abdominal pain be obstinate and persevering, and the diarrhœa be inclined occasionally to recur, notwithstanding the above means, then no time should be lost in bringing the excitement or irritation, call it what you please, from the internal membrane of the intestines to the surface. This can easily be done in most cases, short of direct sinking, by the use of the the ointment of the tartrate of antimony, which causes a real metastasis of the diseased action.

It is not generally known that, by the combination of this preparation with opium, the eruption from it is rendered milder in direct proportion to the quantity of the opium employed, and that, too without in the least lowering the standard of its beneficial effects; neither is it known that camphor and turpentine have great power in hastening the appearance of the rash, which may, by proper management, be made to come out in a surprisingly short time.

The formula which answers the purpose best (and I have ordered the ointment almost every day for the quarter of a century) is the following:—

℞ Pulv. tart. antimonii; pulv. Camph. aa. ʒss.; pulv. opii, ℈j.; ungt. resinosi, ℥i.; ol. terebinth, ℥iss.; ol. cajeput, ʒss. M. ft. unguentum.

Let some of this ointment be freely rubbed in over the seat of the pain, and this is to be continued till the skin become red, and almost as long as the friction can be borne. The rubbings must be repeated from time to time, in urgent cases, at short intervals, to keep up the redness of the skin, till the eruption makes its appearance, upon which the pain and diarrhœa will generally cease. The eruption is to be promoted by applying, in the intervals between the rubbings, a cloth spread with some of the ointment. When the rash comes sufficiently out, a cloth, with a little spermaceti ointment may be placed over it, or it may be dredged, when hot or irritable, with a little farina or hair-powder. It ought not, at first, to be allowed to go in, or to die away suddenly; and, when this happens, the rash can be easily renewed by again applying the tartar-emetic ointment-cloth over the place for a short time.

If the patient's tongue be much furred with the fever-whiteness, indicating iritation and derangement of the mucous membranes; the disease, however often it may be relieved, or for a time removed, will constantly recur.

For the improvement of the state of the mucous membranes, and of the digestive organs generally, I find nothing so beneficial as the combination of these three nitrates with columba and canella, in the following form:—

℞ Pulv. nitratis argenti, gr. iij.; pulv. nitratis potassæ, gr. vi.; pulv. tris nitratis bismuth, ʒij.; pulv. columbæ bismuthi, ʒj.; canillæ albæ, ʒss.; et in pulv. No. xij; divide. M. sig.; a half powder thrice a day, mixed with a little wine, and water added.

In cases of great weakness some quinine may be added, and, where the skin is dry, a very small dose of ipecacuanha. Previous to the discovery of the efficacy of large draughts of port-wine, which discovery I must certainly claim as my own, I had frequently attempted the alleviation of the spasms in vain by large doses, and combinations of the most powerful antispasmodics, with diffusible and permanent stimulants; but I have never, in one instance, seen a large draught of undiluted, cold port-wine fail to carry the spasms off in less than a minute's time. On being called to patients, I have frequently found that, before I had time to reach them, they had indulged in large potations of brandy and hot water, strong ale, and various other stimulants, without obtaining the least relief. So far from this, it is, on the contrary, to be remarked, that brandy and hot water, or, indeed, any other hot drink, which in bilious diarrhœa and common colic, would have a tendency to give relief, seldom fail, in the true Asiatic cholera, to aggravate the abdominal pain; while they exercise little or no influence on the spasms. This effect of hot drinks, and particularly of brandy and hot water, may be added to the other *diagnostic* signs of the disease.

Since I have commenced to give port wine in draughts of a half pint tumbler full at once, I have scarcely had occasion to order any other medicine, with the exception, occasionally, of the eruptive ointment, and the nitrates for the state of the membranes.

It could scarcely, *a priori*, be credited, that such a mild stimulus as port-wine, which one would suppose would be liable to become acid on the stomach, should exercise such an immediate effect on the very seat of the disease.

No sooner is the above quantity swallowed, than the spasms, pain, vomiting, and diarrhœa, instantly cease. This effect of port-wine may be set down as another *diagnostic* of the genuineness of the disease.

If, however, the stomach be burdened with any remedies previously taken, or food undigested, phlegm or the like, the first effect of the port-wine, is to enable the stomach to throw them off; so parsimonious does the system appear to be of the wine, that pure mucus, or the rice-water-like fluid, will often come up, without being so much as tinged by the colour of the port that has just been swallowed Some of those physiologists, who believe that al the processes of a *vital system* are carried on by chemical laws, will, perhaps, explain this fact.

To conclude, I would say, were the word *specific* fashionable in legitimate medical language, that, in Asiatic cholera, port-wine, in sufficient quantity, is decidedly a specific.

Hitherto I have said little respecting the collapse, in which, when it is allowed to supervene, no time is to be lost.

If the patient can swallow, the same dose of port wine, with a drachm of sulphuric ether, two of tinc ture of cayenne, and a wine-glassful of brandy in it is instantly to be given at one draught; sinapisms along the spine; bottles of boiling water, or bladders filled, ought to be placed on the regions of the heart and stomach, and to the loins and feet, after epithems of heated flannels, over which turpentine has been poured, are first applied. The patient may also be well steamed, as practised in Russia, and described in "A. B. G.'s" letter in the *Times* newspaper of the 8th of August.

If the patient be asphyxiated, then, in addition to the above, a blister, or sinapism, is to be placed on the nape of the neck, and a current of electricity or galvanism passed along the course of the pneumogastric nerve, or even artificial respiration kept up, as in cases of drowning; and when the patient cannot swallow, the remedies above-named ought then to be thrown into the stomach, with the stomach pump, and the patient's back placed at a strong fire, till symptoms of uneasiness and returning life be manifested.

10, Red Lion-square, August 27, 1849.

HOSPITAL REPORTS.

LONDON HOSPITAL.

Reported by J. BROWN, Esq.

Case I.

A LARGE NÆVUS OF THE LOWER LIP REMOVED BY LIGATURES.

January 4, 1848.—Wm. Fletcher, a bricklayer, aged 23 years, was admitted into the London Hospital, under the care of Mr. Luke, desiring to be relieved of the incumbrance arising from an immensely enlarged lower lip, caused by a nævus, which had existed from his earliest recollection.

An attempt was made by Mr. Luke, in 1843, to arrest the development of the disease, by the passage of a series of threads through it, which, having caused considerable inflammation, was attended by temporary success. Of late, however, the lip has rapidly and enormously increased, and has given rise to very great annoyance, both in speaking and taking food. There is also extensive discolouration of the skin, over the lower part of the face, the neck, and upper part of the chest; but this was not in progress of extension and gave no inconvenience. For the purpose of removing the large mass of diseased lip, Mr. Luke adopted the following proceeding:—

A ligature, three yards in length, was armed with nine curved needles, which were placed about twelve inches apart from each other. The first needle was passed through the lip, from its inside near the left angle, a little beyond the limits of the tumor; the second, through the lip at a little distance to the right; the third, about the same distance, still more to the right; and so on with the other needles, until the right angle was reached, the last needle being passed a little beyond the tumor on the right side. In this way seven of the needles were used; the remaining two, being unnecessary, were removed. The needles were next cut off, and eight loops of ligature were thus left. Upon tightly tying the ends of these loops, respectively, with each other, the whole of the tumor was enclosed within them, and its circulation stopped. This was done, most effectively, by reason of each ligature embracing a small portion only of the lip, a proceeding which had the additional advantage of not producing any puckering or drawing in of the lip.

January 10th.—The patient to-day complains of pain in the lip, which is greatly distended, and its insulated part is of a shining livid colour.

℞ Vin. opii, ʒij.; aq. font, Oj.; ft. lotio. This lotion to be kept constantly on the part.

℞ Morph. acet., gr. ss; conf. aromat., gr. iv.; Ft. pil. horâ somni sumend. Diet, milk and beef-tea.

13th.—Since last report an incision has been made through the livid swelling with a lancet, which has had the desired effect of relieving the tension and pain; a bread poultice, made with opiate lotion, is to be kept constantly on the lip, and the morphia pill to be continued at bed-time.

16th.—Less pain in the tumour, which is becoming black.

19th.—The tumour sloughed off yesterday, leaving the sore with a pretty sound and healthy appearance. A compress of lint is to be put over the lower part of the lip, and firmly fixed by a long piece of adhesive plaster, with the view of supporting the lip and assisting the process of cicatrization.

February 19th.—The lip has been healed for some time, and the patient has this day been discharged from the hospital cured. The deformity caused by the tumour, with the exception of the mere mark of the cicatrix, has, by this operation, been completely and satisfactorily removed, while the patient, possessing the power of free motion of the lip, has got rid of an inconvenience which had hitherto rendered his life miserable.

Case II.

EMPHYSEMA FROM FRACTURED RIBS.

July 27, 1848.—James Davey, aged 68 years, a labourer in the London Docks, received a blow this morning while in the performance of his duty, upon the right side of his chest, by a hogshead of sugar, which was swinging from a crane, and, as he appeared to be suffering great pain, he was immediately brought to this Hospital for treatment.

On examination, no fracture of any of the ribs could be detected, on account of the tumefaction which had taken place around the injured part; but as, from the symptoms, there could be no doubt that the man had received a serious injury, he was at once taken into the Accident Ward, and placed under the care of Mr. Luke.

At half-past ten o'clock, p.m. (nine hours after his admission into the Hospital), no change had taken place in the symptoms. The pulse was slow and weak; the breathing difficult. The body was covered with hot perspiration, and the patient said that the only position which in any way relieved the pain, or, indeed, in which he could lie, was upon the side opposite to the one injured, with his back bent forwards, and his thighs flexed upon the abdomen; and he also said, that the pain, while in this position, was much less severe than it was in the morning at the time he applied at the Hospital for assistance. In less than half an hour after this, however, the nurse reported that his body had become, to use his own expression, "swollen like a drum;" and on revisiting him, it was found that extensive emphysema had suddenly taken place; the cellular tissue over the whole of the body, from the head to the inferior extremities being distended with air. The neck, scrotum, scalp, and face, were greatly swollen. The eyes were completely closed. The body, in point of temperature, was below the natural standard. The pulse had now become quick and full; the breathing very difficult and labouring, and, at each expiration, the distension above the immediate seat of the injury, was perceptibly increased. Twenty-five ounces of blood were now taken, which seemed, at the time, greatly to relieve him. On the following morning, at six o'clock, the emphysematous swelling had greatly increased, particularly about the scrotum and over the chest. Punctures were now made in those parts, through which the air passed freely; but the patient appeared to be much exhausted. The pulse was weak and irregular. The breathing short and difficult. The body, which was cold, was covered with a clammy perspiration, and, in this state, the patient remained until half-past seven o'clock, when he died.

Treatment.—The bowels were at first freely opened by cathartics. The side was fomented with warm water. Bloodletting was next had recourse to; the most distended parts were then punctured for the purpose of permitting the air to escape from the cellular tissue, and wine, brandy, and ammonia were internally administered.

Post-mortem Appearances.—On dissecting back the integuments from the sternum, over the anterior part of the chest, and making a small opening into the thorax, between the ribs, on the right side, a considerable quantity of air rushed out. Six of the ribs were found to be broken, and the fractured extremity of one of them was depressed. On removing the sternum, the pleura was found to be lacerated, and the right lung slightly wounded. The lung, which was collapsed, was of the natural colour in some parts, and, in other places, it was dark and congested. Some of the air-cells were filled with coagulated blood, and a quantity of effused blood was found in the right pleura. The left lung was sound.

Case III.

HÆMORRHAGE FROM THE TONGUE TREATED WITH TINCTURE OF MATICO, AFTER OTHER MEANS HAD FAILED.

October 9, 1848.—William Baker, fruiterer, aged 34 years, states that, on the 6th instant, he received a blow upon the chin, whilst the tongue was protruding from the mouth, which caused that organ to be wounded by the teeth; the consequence of which was, hæmorrhage, so copious and uncontrollable, as to render it necessary to apply to several surgeons for assistance; but, as none of them succeeded in suppressing the bleeding, he was brought to this Hospital in a very weak state, and placed under the care of Mr. Luke. A piece of the nitrate of silver was immediately pushed into the wound; but, notwithstanding this, the bleeding still continued. A saturated solution of alum was next applied by means of pieces of lint, but still without success; and, at last, the tincture of matico was had recourse to, and used in the sameway as the solution of alum, which, fortunately, had the desired effect of permanently arresting the hæmorrhage.

The patient states, that, whenever bleeding from his nose takes place, it generally continues for several days; that some time ago, when he was bled from the arm, it was found to be very difficult to stop the blood, which oozed through the compress and bandage for nearly four days. He further states, that he was a patient in this Hospital some years back, on account of hæmorrhage from the urethra, which continued for the space of seven days, and was, at last, stopped by keeping a large catheter for a long time in the urethra. He had also been, it appears, at another time, in this Hospital, in consequence of having received a wound on his hand, which bled for several days, notwithstanding continual pressure was kept up by compresses; thus showing a very strong hæmorrhagic diathesis; and, on inquiry, it is found, that all the members of his family have the same disposition, particularly his father.

In the above case, the patient, after having been one week in the Hospital, without any return of the hæmorrhage, was discharged, with directions to take tonic medicines, and to use such other means as are likely to have a tendency to strengthen his constitution and to improve his general health.

University of London.—First Examination for the Degree of M.B., 1849.—Examination for Honours.—Anatomy and Physiology.—Pardey, Charles, Exhibition and Gold Medal, King's College; Thompson, Henry, Gold Medal, University College; Neale, Richard, University College; Duthoit, Thomas James, St. Bartholomew's Hospital; May, George, King's College; Langham, John Phillipson, University College; Head, Edward Abraham Hancock, King's College. Chemistry.—Pardey, Charles, Gold Medal, King's College; Odling, William, Gold Medal, Guy's Hospital; Head, Edward Abraham Handcock, King's College; Thompson, Henry, University College. Materia Medica and Pharmaceutical Chemistry.—May, George, Exhibition and Gold Medal, King's College; Odling, William, Gold Medal, Guy's Hospital; Pardey, Charles, King's College; Houlton, Joseph, Charing-cross Hospital; Neale, Richard, University College; Head, Edward Abraham Hancock, King's College; Stocker, John Sherwood, Guy's Hospital. Botany.—Pardey, Charles, Gold Medal, King's College; Neale, Richard, University College; Odling, William, Guy's Hospital.

National Institute.—We understand that the Council of the National Institute are desirous of having a conference with delegates from the various Associations that have been organised for the purpose of effecting a Reform of the Medical Profession, and that they intend forwarding a Circular Letter to the officials of such Associations, and other influential gentlemen, for the purpose. It is clear, that no satisfactory means of reform can be carried out, unless there is a general agreement among all parties, both in and out of the governing bodies of our Collegiate Institutions. We, therefore, hope that this laudable design will meet with success.

PROGRESS OF MEDICAL SCIENCE.

FRANCE.

[From our Paris Correspondent.]

THE NATIONAL EXHIBITION.

According to promise, I complete my account of the things pertaining to medical science which are to be found in this wonderful collection of useful and agreeable objects.

Before proceeding, however, to notice the chemical and pharmaceutical products which decorate the stand in vast abundance, I beg to say a few additional words on M. Bloch's syphon, partly because I gave you a very imperfect description of this ingenious instrument, and partly because the inventor has substituted a new instrument for the original one. The accompanying sketches will give a clearer idea of both than words could convey.

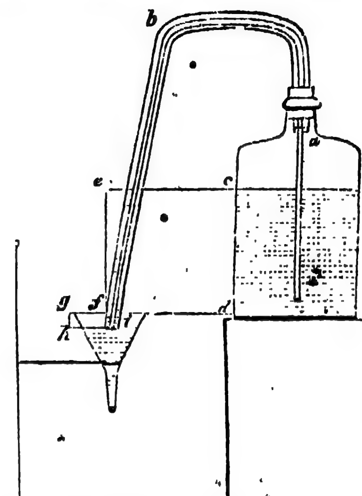


Fig. 1 represents the original syphon. It is fixed and set to work in the ordinary manner, and the filter placed so that the extremity of the "regulating tube" *b* shall just skim the surface of the fluid. As the air enters through the extremity of the tube *b*, the internal tube or syphon will act from the pressure of the column *c d* + the difference of the two branches, *g h*. When the fluid ascends in the filter, and the extremity of the regulating tube becomes closed by it, the fluid will continue to ascend in the tube *b*, until the pressure of the internal air + those of the columns *c d* and *g h* are equal to that of the atmosphere; or as *c d* and *g h* are equal to *e f* and *f i*, until the fluid rises in the tube *b* to *e f*.

As soon as the level in the filter falls by the discharge of fluid from its apex, then the column *e f* suddenly falls, the air rushes in, and intermittence takes place.

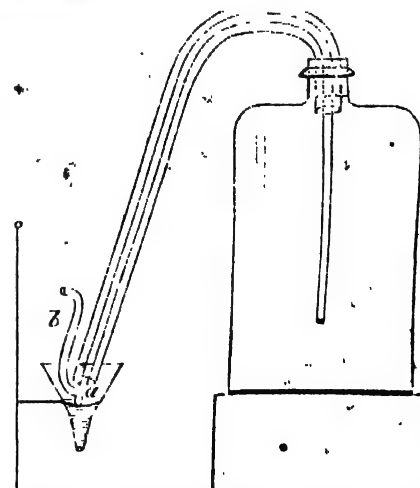


Figure 2 represents a modification of the instrument, which has been substituted for the original

within the last week. The inner tube, or syphon is bent on itself, as it comes out from the "regulator," and gives off, at the bend, a small tube, *a*, which projects about two centimetres into the fluid contained in the filter. The use of the ascending branch, *b*, appears to be, to afford a means o making the syphon act readily by suction.

When I saw this instrument in action, the fluid was escaping by drops from the tube *a*, which did not project into the fluid of the filter, and the only intermittence was that of the intervals between the drops. The price of the syphon varies from 3 to 5 francs.

CHEMICAL AND PHARMACEUTICAL PRODUCTS.

In the vast Palace of the Champs Elysées two divisions, or "stands," as we would call them, are set aside for the display of Pharmaceutical and Chemical productions.

No less than eighty houses, the principal of Paris, France, and Algiers, have furnished specimens, amongst which the great difficulty is "to choose."

The firm of Boyveau, Pelletier, and Co., however, appear to me to bear off the palm. In the division occupied by the products of this celebrated establishment, are four shelves loaded with the most beautiful specimens of chemical industry.

On the first shelf we are attracted by an immense jar of cafeine, flanked by large bottles, containing iodide of lead, sulphate of cadmium, and iodide of mercury, of a most brilliant colour.

On the second shelf we have, in equally large proportions, jars containing the hydriodate of morphine, crystalized urea, cyanide of potassium and iron, calomel *à la vapeur*, sulphate of ammonia and nickel, of a most delicate green, iodide of potassium, and bisulphate of tin, which looks like native gold.

The third shelf contains, in the middle, a beautiful basket formed of a crystallized acetate of copper, the ammonio-nitrate of copper, tartrate of potass, a large jar of the hyposulphate of soda, so useful for daguerreotyping, chromate of potass, and smaller jars containing manganate of potass, chloride of chromium, of a superb lilac tint, and the oxide of nickel.

Finally, on the fourth shelf, are ranged, sulphate of morphia, gallic acid, uric acid, alloxane, crystallized chloride of barium, parabanic acid, and the products of uric acid in four small bottles.

Messrs. Pelletier and Co., likewise exhibit a mercurial trough, for the analysis of gases by a new process.

Not far from the latter is a fine electric battery, by Quennessen, for the production of electric light. It is a jar battery of 40 elements, which, the manufacturer assures us, are equal to 150 elements of Bunsen. It costs 500 francs, or 20*l*.

Worthy of notice, also, is a balance which receives a weight of 4½ pounds, yet is delicate enough to indicate a difference of ·01544 grains Troy. This costs 32*l*.

The mines of Bouxwiller furnish many fine specimens of chemical product, but they are rather destined for the arts than for medicine. Suffice it, therefore, to notice two enormous specimens of the chromate of potass, in the form of a cross and of a long-necked bottle; three varieties of the sulphate of iron, white and gray ammonia in large masses, and enormous blocks of alum.

The establishment at Noisel sends some fine specimens of extracts prepared *in vacuo*, especially extracts of bark, Ipecacuanha, and cicuta.

Lemire, of Choisy-le-Roy, also exhibits a variety of products which do high credit to provincial industry. His specimens of the products from the distillation of wood are complete and interesting. Amongst these I may notice the liquid gas, which is perfectly clear—oil of coal less so; the spirit of turf, of a light amber colour and spirit of wood, perfectly clear. A curious specimen from the same manufactory is a glass bottle divided into three compartments, and containing the three elements of naphtha. Bitumen, naphtha, and calcaire, of black, grey, and white colours.

The products of the distillation of naphtha, exhibited by M. Lemire are, the fat of naphtha, bitumen, various oily fluids of a yellow colour; petroleum and white naphtha, perfectly colourless. He has likewise a superb specimen of acetate of copper, two varieties of the tartrate of potass and iron, and a fine jar of anhydrous phosphoric acid.

As you may readily perceive, it would require an intimate knowledge of chemical and pharmaceutical mysteries to appreciate all these products in a suitable manner.

The only specimens of M. Pelouze which struck me as being worthy of notice were, an immense jar of tannin and some pyrolignate of lead.

M. Cournerie and Co., of Cherbourg, exhibit two varieties of the iodide of lead, some biniodide of mercury of a superb red colour, and a large quantity of sublimed iodine. They have also fine specimens of the iodide of potassium in crystallized masses, brilliant and white as wax. Campion and Therouđe, of Granville, exhibit very fine specimens likewise of pure iodine, iodide of potassium, and of the sulphates and muriates of potass. Jůlien, of Paris, who has already received honorary distinction, has some arsenite of copper and corrosive sublimate, which appear worthy of notice.

M. M. Rousseau, the well-known chemists of the *Rue de l'Ecole de Médicine*, exhibit chiefly a number of rare and costly oxides for colouring glass and artificial jewels.

MM. Kuhlmann, of Amiens, have a large collection of acids and compounds of soda; M. Huillard, some sulphate of alumina, perfectly free from iron; and M. Biron, a large jar of crystallised mannite. Homalle and Quevenne, of the *Rue Jacob*, exhibit a large jar of digitaline, with a quantity of small pills formed of this substance.

M. Leroux has an equally large mass of salicine, the active principle of the willow bark, the febrifuge powers of which, he says, he was the first to have made known in the year 1829. Amongst the pharmaceutical curiosities, I should not omit to mention the enormous gluten buns of M. Pavart, for the treatment of diabetes, and the "capsule boxes" of M. Lilberman. These latter contain oblong capsules, made of vegetable mucilage, which open and shut ike a box, and in which the medicine is placed immediately before being taken. Unlike other capsules f a like kind, they are empty, which probably constitutes their chief value. They are sold for the moderate price of 2s. 6d. per hundred. Lastly, I should mention the vast quantities of gelatine, of every colour and degree of purity, from 1s. 8d. o 10d. per pound. Perhaps, however, the most nteresting part of the whole exhibition is that devoted to the productions of Africa; but, the only products which come within the range of medicine are some specimens of opium, castor-oil, rhubarb, and citric acid, from the Government gardens and he establishments of MM. Baziere, Simounet, and Rozeron, of Algiers.

While on the subject of Chemistry I may mention, that M. Melsens, the young Belgian chemist, whose name has acquired such notoriety from the sugar question, has published an interesting paper on

THE USE OF IODIDE OF POTASSIUM IN AFFECTIONS FROM LEAD AND MERCURY.

M. Melsens thinks that, in many cases, where the symptoms of poisoning from these metals continue after the removal of the patient from the exciting cause of the complaint, the metals continue fixed in he tissue of the diseased organs. Mercury forms a variety of compounds; and lead occurs, according o our author, chiefly as a plombate of soda.

Reasoning from these principles, M. Melsens proposes "to render soluble the metallic compounds which are fixed in the tissues, and favour their excretion by uniting with them another substance—the iodide of potassium, which is readily eliminated. This idea, for lead at least, is founded on a principle exactly contrary to that of the practitioners who adopt the acid treatment with "sulphuric lemonade;" for here the lead is supposed to exist under the form of a soluble salt, and the acid is used to convert it into an insoluble sulphate of lead.

M. Melsens has proved, by experiments conducted on his own person during two months, that the iodide is eliminated through nearly all the emunctories; he found it even in the saliva and tears; the fæces, on the contrary, do not contain any trace.

For the practical part of the subject, M. Melsens relates four cases of lead colic cured by the iodide of potassium, and six cases of mercurial poisoning in gilders, &c., five of which terminated favourably.

To adopt M. Melsens' theory, we would naturally require proof that the metallic particles have become soluble in the tissues, and been expelled with the iodide. To prove this, M. Melsens cites the very curious, and perhaps unique, fact, "that, in all the cases of chronic poisoning from lead and mercury, in which the iodine was employed, the cure was preceded by acute symptoms of poisoning from these metals. As to the direct proof of their presence in the excretions, M. Melsens mentions only one case, that of a glass-maker, in whose urine mercury was found. It will be for experience to decide on the practical value of M. Melsens' discovery. His theory does not seem free from reproach, though, if I remember right, the presence of lead in the paralysed muscles was noticed many years ago by Mr. Paget, in a paper published by the Medico-Chirurgical Society.

GERMANY.

(From our Berlin Correspondent.)

The cholera has sojourned nearly fourteen weeks among us, nor does it now seem inclined to take its departure. We have seldom less than eighty cases a day, and most of these of a very intense character; and, moreover, about a fortnight ago, it appeared for a time under so malignant a form, that the public, in their fright, forgot even their interest in the Hungarian struggle. We were, in consequence, inundated with popular and complicated essays on the cholera; and among these the readers of our most widely circulated Journals were terrified out of their wits by the information that certain individual had discovered the source of the choleric poison in the green slime which appeared on the top of drinking water when allowed to stand for twenty-four hours. This party made a proposition to the effect, that the Berlin people should abstain from drinking spring water for fourteen days, and that they would then see how the cholera would disappear. Instantaneously the hydropathists, who, notwithstanding their cold baths, douches, and wet sheetings, are here a very hot-headed sect, rose *en masse*, and declared the hydrophobist to be a mad-.n. Cold water, and nothing but cold water, must be drunk, it being the only true preservative in case of cholera. But the cholera always acts "*en souvérain*," and attacks whom it pleases, regardless whether they submit themselves to a wet or dry treatment.

You know how strictly vaccination is regarded in Prussia. No child is admitted to the schools without the cow-pox mark, and every recruit, without distinction, is vaccinated as soon as he enters the army. Lately a public announcement was made as to its results in the army, of which the following is an extract:—"In the year, 1848, 28,859 soldiers were vaccinated. With 16,882 its effects were regular; with 4,404 irregular; and with 7,573 no result was discernible.

The summer lectures at our University have been discontinued. During the last six months 1,182 students had their names subscribed, out of which number 203 belonged to the medical faculty; amongst the latter there were 50 foreigners.

You remember the experiments of Bernard in Paris, by which it appeared that an injury of the floor of the fourth cerebral ventricle in rabbits changed the character of their urine. The Paris papers made a grand report on the merits of the discovery, and considered themselves as the sources of all light on the etiology of diabetes. But, in Berlin, where we have also experimented in the same way as Dr. Bernard, no influence on the urine has been obtained.

Permit me to inform your readers of our clinical ex-

perience on collodium. Collodium has been successful on simple decubitus, and even in greater wounded surfaces. It was found to be valueless in sore breasts. A pseudo-erysipelas in the lower part of the thigh was speedily cured by the application of collodium; and Langenbeck strongly recommends it after amputation; in two or three days he removes all sutures, and applies collodium. By these means he generally effects union by the first intention.

We hear no more of a Prussian Medical Reform. This hope of the year 1848 has, like many others of the same date disappeared. The Reform Association has gone to sleep, and its Journal is given up for lack of subscribers.

In Austria, where medicine formerly enjoyed the special protection of Government, it is now neglected,— the Universities are in a sad predicament, and their professors regarded with suspicion and dislike.

The reason why a hostile feeling is thus displayed toward medical science, is that her votaries were among the chief instigators of the Austrian Revolution; and that those members of the Academical Legion of Vienna, who sought refuge in Hungary, were among the bravest in the army of General Bem. The salaries of the Professors have been greatly reduced, and they have even been deprived of their chairs, if the colours they wore were more German than Austrian; and scientific Institutions and Museums have been substantially suppressed, by being deprived of their funds. The celebrated anatomist Hyrth, of Vienna, tired of the annoyances to which he was subjected, has thrown up his Professorship; and Partreban, Professor of Physiology at Prague, during lecture, and in the midst of his auditors, was lately arrested by soldiers, on suspicion of having harboured a fugitive. On the following morning, the Professor was released, but refused every satisfaction for the injury he had sustained. He is now on his road to Paris.(a)

The Austrian army in Hungary is miserably deficient in Medical men; the reason principally is, that, in the Austrian service, a surgeon is forced to put up with a vast deal of harsh treatment. In order to remedy this deficiency, the Government has adopted a truly Austrian measure; namely, it has resolved, that no medical student shall receive his Doctor's diploma unless he binds himself in the first instance to serve some time in the army

It is, perhaps, known to you, that in the same way as the German agriculturists hold annual meetings in some German town, the naturalists and Medical men also annually congregate together. This Institution has now existed twenty-five years; and has for its object, that the Medical men and naturalists of our wide Fatherland should, whilst engaging in these festivities, impart to each other their various discoveries. The last meeting was held at Aix-la-Chapelle; but in 1848, on account of the unsettled political state of the country, there was no meeting. This year the Association is convened to meet from the 18th to the 24th of September at Ratisbonne, in Bavaria.

DENMARK.

[From our Copenhagen Correspondent.]

THE STATE OF MEDICINE IN DENMARK.

Denmark never has, and scarcely ever will be able to play any great part in the history of medical science. Its territory scarcely exceeding and its population less than that of Holland, the country has produced but few distinguished men. Another circumstance that must prove an impediment to the literature of Denmark, is the condition of its language. Copious and flexible, soft and euphonic offspring of the Norse, and sister of the ancient German, the Danish language only requires that its literature should be known to insure for it a high place among that of Europe; but the small population of Denmark, its geographical position, removed from the main road of continental communication, and the humble part which for centuries it has been compelled to play in its political relations, has consigned its language to undeserved neglect, and left its literature unnoticed and unknown among the nations.

Thus scientific men in Denmark are rarely noticed, unless they write in a foreign language. There was, indeed, a time when there seemed a disposition to make Danish medicine a branch of German science. But in later years, this has, in no small measure, emancipated herself from the systematic eccentricities of Germany, and joined issue with English and French authority. Of late, however, the political and national differences between Germany and Denmark, have left the medical literature of the latter country still more unknown to foreign nations; and thus a Danish Medical Author, writing for a small public, has the proud satisfaction of feeling, that he is perhaps actuated by a purer love of science, than if he might hope for European renown to reward his exertions.

Notwithstanding all these opposing circumstances, the names of Danish physicians are by no means unknown in the history of medicine, especially those of the olden time, when the Latin language was the common medium of scientific communication Anatomy, for instance, is indebted to the Danish physicians of the seventeenth and eighteenth centuries for many important discoveries. Thus, Thomas Bartholin, in the seventeenth century, the discoverer of the lymphatics, and the promoter of Harvey's doctrine of the circulation, was a Dane. Caspar Bartholin (the younger), and Niels Steensen (latiné Nicolaus Stenonius,) whose name is connected with the discovery of the Parotid duct, were his contemporaries; and, in the 18th century, J. B. Winslow, added much to the renown of the Danish anatomists. In the last half of the past century, H. Callisen afterwards Professor at the Academy of Surgeon wrote in Latin a system of surgery, which havin passed through many editions, became an established standard work in Europe, and still maintains a high place in the literature of surgery. The contemporaries of Callisen were M. Saxtorph, the celebrated accoucheur, late Physician to the Lying-in-house in Copenhagen; J. E. Tode and F. L. Bang, both Professors of the University, the first known voluminous author and editor of Danish and German periodicals towards the end of the past century the latter as the author of what once was reckoned among the best works on practical medicine. Among the physicians of the present century, were Professor J. D. Herholdt, a renowned physiologist, and a most distinguished man of genius and learning; J. Jacobson, the ingenious inventor of lithotriphy; J. D. Brandis, a German, indeed, but writing pathology in Denmark; and Professor Gundelach Moller, who first introduced clinical surgery to Copenhagen, a bold operator, and one of the few who have tied both the carotids.

Until 1842, medical science in Denmark, influenced by the traditional division between medicine and surgery, was taught by two different institutions. The elder of these was the *Medical Faculty of the University of Copenhagen* (founded in the year 1479,) which, till the 18th century, was the only school of medicine in the kingdom, and where, accordingly, most of the elder anatomists and physicians were educated. But medicine, properly so called, and its collateral branches being in ancient times the only objects of solid instruction at the Faculty, there was founded in the year 1736 a "*Theatrum Anatomico-Chirurgicum*" in Copenhagen, as a school for surgeons. This institution, having existed for half a century, was displaced in 1785, by the "*Royal Academy of Surgery*," founded upon a more extended plan, and similar to analogous institutions at Berlin and Vienna.

Surgery was now respectably represented in the system of medical education in Denmark. The ancient division of Medical men into physicians and surgeons, indeed, still existed, and nobody thought of uniting surgical and medical practice. Yet the Royal Academy of Surgery had a very decided and salutary influence in raising the somewhat despised study and practice of surgery in the opinion as well of the public as of the Medical Profession. Gradually improving and enlarging its original plan, the Academy of Surgery, in the course of years, became a formidable rival to the Medical Faculty; and a medical man, who had undergone the examination at the Academy alone, *cæteris paribus*, was deemed better prepared for practice, than if he had merely passed the Faculty of Medicine. The examination of the Academy, with few exceptions, entitled the "*candidate of surgery*" to the same rights as the examination of the Faculty. The "*Examen Medicini*" at the Faculty, *necessary* only to those who either aspired to the grade of a Doctor in Medicine, not conferred by the Academy, became, in later years, a mere formality, not, however, to be neglected by surgeons who, having been scholars at the University, wished to distinguish themselves.

But still the Academy of Surgery, notwithstanding its great and undisputed merits, and the improvements which, by degrees, it underwent, did not in all respects respond to the claims of the day. One of its greatest faults was that of not demanding any preparatory education from its pupils. It sent forth many a rude and ungentlemanly fellow as a practitioner, totally unfit to associate with those members of the Profession who had passed their youth in a regular school and University curriculum. It was a fault arising from the original destination of the Academy, being, to improve and raise the study of surgery, then despised by the pupils of the University; and though the number of such uncouth members of the Profession by degrees were much diminished, because everybody now began to feel the necessity of studying surgery, yet, the regulation by which any person devoid of genteel education might, by the examination at the Academy, acquire the same rights as a well-bred student, unavoidably gave rise to schism between members of the Profession. The Academy of Surgery thus, insensibly, had become an anachronism. The division between Medicine and Surgery had been long acknowledged in Denmark, as neither serving the purposes of science nor those of practical life; and the want of plan and unity in professional studies, and the differences between the Faculty and the Academy, at last proved so unnatural, that it was found necessary to unite together that which never should have been separated (a)

Considerable progress was made when, in 1838, a strict union between the Academy and the Faculty was established in such a manner that both institutions, still remaining separated as to administrative and economic matters, localities, professors, &c., yet taught upon a common plan, and constituted but one body for the purpose of examining the pupils of the Academy as well as the medical students of the University, and jointly bestowing the *jus practicandi* hitherto acquired from either. This union was preparatory to the uniting of surgery and medicine, and establishing but one class of men equally skilled in both, provided with a preparatory education, and able to command general respect and esteem for the Profession; which long and well-premeditated plan was at last carried into effect, by the complete amalgamation of the two Institutions in the year 1842 :—the Academy of Surgery being incorporated with the University, and placed under the management of a Royal University Board of Professors. The property of the Academy was incorporated with that of the University; and now the *Medical Faculty of the University* of Copenhagen is the *only* institution in the kingdom of Denmark destined for the instruction of medical men, and comprising, or at least intending to comprise, within its plan, all the branches of Medical and Surgical Science.

(a) What a fate may sometimes befal an Austrian Professor can be gleaned from the following advertisement, which appeared in the *Viener Zeitung* of the 1st of August; it was posted for four days in the street corners, and ran as follows:—"A situation as servant is wanted by a University Professor, who is at the same time an M.D. and surgeon."

(a) In the *British and Foreign Medical Review*, July, 1836, Professor Otto, of Copenhagen, has written a Report of the State of Medicine in Denmark, where an account of the Academy of Surgery, and of the Medical Faculty of the University, as they then existed, is to be found.

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MEDICAL TIMES.

SATURDAY, SEPTEMBER 1, 1849.

IT affords us much satisfaction to see the current of public opinion setting in strongly against the custom of intramural interments. It is not because the inhabitants of this great Metropolis have been kept in ignorance of the fact of cemeteries being gorged with human bodies in various stages of decomposition, from which emanate the most noxious exhalations, that a persevering demand has not been made for their immediate closure, but because the evils inflicted were not immediately traced to their sources. Typhus fever and other fatal diseases had so long been located amongst us, that the public was slow to believe most of them were produced and perpetuated by causes easily removed. Science might have spoken in vain for many years to come, if the advent of the cholera to our shores had not roused the people from their slumbers, and inspired them with a concern for their safety. A disease apparently so singular in its movements,—so rapid in its progress,—so fatal in its results,—could not fail to command the most earnest attention from all classes in society. Curative medicine tried all its resources to conquer this strange enemy to man, but in vain,—when the long neglected science of hygiene was brought forward as a most hopeful resource. The enemy, in his movements, betrayed the secret wherein his great strength lay, and the efforts of sanitary reformers have been directed to dispossess him of his strongholds. Wherever the cupidity or stupidity of men had allowed the excretæ of the inhabitants of our towns to stagnate, or only imperfectly to be carried away, there malignant diseases played frightful havoc with human life. The champions of hygiene did well, therefore, in early directing their attention to remedy the defective condition of urban drains and sewers. But passing strange does it appear, that while other causes were discovered, equally destructive to human life, no combined or determined attack was made upon them. Among these stand prominently forth—the graveyard nuisance.

It is true that a few individuals exposed and condemned the secrets of the charnel-house—that a Parliamentary investigation more than confirmed whatever those individuals had stated; yet the "nuisance" remains to this day unabated, and the sexton and gravedigger are employed with unabated vigour in making firewood of coffins, and in chopping up partially decomposed bodies. We shall not go over the list of enormities perpetrated in the burial-grounds of Spa-fields, Portugal-street, St. Giles, St. Bride's, and other places, which have for some time been before the public, but shall take a more recent specimen from the parish of St. Ann, Blackfriars, in order to show that those who are interested in surcharging our intra-urbem cemeteries, are nothing daunted by the exposures which have been made. We feel that we have already done some good by bringing forward that filthy little golgotha from its unmerited obscurity. One would think it must have been a sweet smelling savour to the "*Times* printing-office" and Apothecaries' Hall, overshadowed as it is by these great corporations. To the parishioners in general, however, it is a stench in their nostrils, as the following Report, made to the Commissioner of the City Police last Monday, will prove:—

"Sergeant Price, 66, reports that his attention having been called by the inhabitants near the burial-ground of St. Ann's, Blackfriars, situate in Church-entry, Shoemaker-row, to an offensive nuisance existing from the insufferable smell from the grave-yard, he was directed by Inspector Scott to visit the ground, and upon doing so this afternoon (Sunday) he saw a grave opened about four feet in depth from the surface, and apparently not sufficiently large to admit a coffin. The sergeant and police-constable, 362, Yarnold, remained while the funeral service was performed by the clergyman, and when the coffin was about to be lowered it was discovered that the hole was not large enough to admit it; the gravedigger, in endeavouring to remedy this, removed a support, when a most disgusting scene presented itself, the adjoining grave giving way and filling the new-made one with bones and pieces of coffin.

"Subsequently the corpse was removed to a ground opposite, and there buried. Such is the state of St. Ann's burial-ground for the poor. Several persons present, being disgusted at the sickening sight, requested that the sergeant would report the occurrence to the authorities. A person named Wood, employed at the *Times*-office, informed the sergeant that he saw the grave-digger, whilst digging the grave spoken of, break up a coffin, from which A MOST ABOMINABLE SMELL AROSE, WITH A PICKAXE, thus desecrating the dead and endangering the health of all who inhale the horrid effluvium. A quantity of human bones were also rudely exposed to the gaze of the public in the burial-ground, the smell from which was intolerable. The following persons and several others are prepared to come forward, if required, to give evidence to the overcrowded state of St. Ann's (poor) grave-yard:—Henry Wood, the *Times*-office; Mr. Leach, 3, Broadway, Blackfriars; Mr. Eades, 7, Fleur-de-lis-court.

"C. SCOTT, Inspector."

It has been the practice severely to censure humble officials who perform the disgusting duties of digging through layers of human bodies to form new openings for the dead; but these are no more the parties to visit with censure than they are to remedy the defect. The source lies much higher, and requires a power of proportionate vigour. As one means to this end, we should be glad to see every incumbent of a parish connect himself with some sanitary association; for it is as much the duty of a Christian pastor to seek the temporal as the spiritual welfare of his flock. Whatever the clergy, however, may do, we hope the Government will speedily adopt measures for the abolition of burials in towns. The health and morals of society alike demand it.

TREATMENT OF CHOLERA.

AGAIN we return to the subject of Cholera; again we entreat those who have the power to investigate the various methods proposed for its treatment, to investigate those methods systematically, to trust the lives of those jeopardized to that in favour of which the most trustworthy evidence has been produced, and unhesitatingly to give their evidence for or against such treatment; and that not only by stating the general result, but by giving the details of the cases.

Let our readers clearly understand, that in order to arrive at anything like a correct conclusion in the matter, it is absolutely necessary for them to carry out the method of treatment, the value of which they are testing exactly in the way its advocates have advised. Cholera, in a large majority of cases, attacks those unaffected with chronic disease,—we refer our readers to Dr. Gairdner's paper in the *Monthly Journal*, for July, 1849,—is attended with nearly the same symptoms in all, and requires, consequently, but little modification in the treatment of individual cases; therefore it is that it offers peculiar facilities for testing the efficacy of any given treatment. There are only two modes of treating the disease which have in their favour any great amount of evidence. The success which the proposers of these methods of treatment declare they have obtained is so far greater than that stated to have resulted from any other method, that Dr. Stevens' saline and Dr. Ayre's calomel treatment claim attention with a voice so loud that they must be heard. Opium has failed in the treatment of collapse even in the hands of its warmest admirers—in the hands of those who yet unhesitatingly affirm it to be the sheet anchor. It is useless for the Board of Health longer to recommend its employment. To them are the lives of the community entrusted. Let them obtain the help of impartial judges, hear the advocates, the proposers of these methods of treatment, and call impartial witnesses. Dr. Stevens affirms, that he has evidence to show, that of 1000 cases of cholera, treated with the salines he used in Coldbath-fields Prison, not more than 6 per cent. have proved fatal. These cases consist of those treated by himself, and others under his direction, in Coldbath-fields Prison and at Greville-street Hospital; at St. Luke's Hospital, by Drs. Cambridge and Rance; at Bridewell, by Mr. Cox; at Abchurch-lane, by Mr. Tweedie. In private practice, by Mr. Whitmore, of Coldbath-fields-square; by Mr. Moss, of Windsor; Mr. Bossay, of Woolwich; Dr. Kendrick, of Warrington; and lately by Mr. Leckie, of Bonhill, Dumbartonshire. In addition to these cases, we have seen a letter from the Regent of Norway, in which he states, that the saline treatment of Dr. Stevens was very successful in that kingdom, and a paper issued by the Board of Health of Upsala, in Sweden, wherein it is stated to have been by far the most successful of any of the methods tried in that Kingdom. With this amount of evidence in its favour, Dr. Stevens has supplied us with the following statement of his method of treating the disease:—

"PREMONITORY SYMPTOMS.—Acting under the belief that the premonitory bowel complaint is an effort of nature to expel the poison from the blood and the body, on the first appearance of the premonitory symptoms, a seidlitz powder is to be administered; but if the patient experiences a sense of sinking without diarrhœa, more active saline purgatives must be employed. The aperient I have actually used is from one to three drachms of sulphate of magnesia, added to the seidlitz, and the whole taken in a state of effervescence: when this commences to act on the bowels, the patient is to be encouraged to drink freely of thin beef-tea, well seasoned with common salt. If vomiting is present, a sinapism is to be applied to the epigastrium: if the thirst is intense, seltzer, soda, or plain water, is to be allowed *ad libitum*.

"SECOND STAGE, OR THAT OF DEVELOPED CHOLERA.—The diagnostic symptoms being cramps,

coldness, or sinking prostration. The following powder,

"℞ sodæ sesquicarb., ℈j.; sodii chlorid, ʒj.; potassæ chloratis, gr. vii., misce.

is to be dissolved in half a tumbler of water, and administered in severe cases every half hour; in some malignant cases, every fifteen minutes; while in those cases which are not very severe, it is to be given every hour. The frequency with which the dose is to be repeated in each particular case varies according to its circumstances. In every instance, the saline must be continued until the circulation is fairly restored; when once that point is gained, the intervals between the doses may be lengthened; when re-action is completely established, it is to be left off by degrees. In extreme cases, the dose of the chloride of sodium is to be increased two drachms, and in some cases to even more than this. In those cases where the stomach is very irritable, a dilute solution of chloride of sodium is to be thrown up into the intestines; the temperature of this saline enema being as high as the patient can easily bear, which, as a general rule, is about 100 degrees Fahrenheit. When properly used, this is a means of great value.

"When the stomach is very irritable, the use of the saline powder may be occasionally suspended, and common effervescing mixtures, or small doses of the common soda powders, with an excess of the carbonates, used, until the vomiting abates, and then the carbonate of soda, with larger doses of the chlorate of potash, may be given without the chloride of sodium, or the chlorate of potash may be given by itself, in doses of ten grains each.

"A large mustard poultice is to be applied in such cases to the epigastric region, the moment the patient comes under treatment. When the saline powders are used at the time the stomach is very irritable, it is deemed advisable to dissolve them in a very small quantity of water.

"When cramps supervene, the extremities must be rubbed with hot flannel. The pain produced by the spasms in the muscles is not only relieved by the frictions, but by this, and the application of sinapisms to various parts of the body, the temperature is increased; an object of no trifling importance in the treatment of cholera. In this stage of the disease, as in the premonitory symptoms, seltzer, or cold water, may be allowed the patients, *ad libitum*. A strong infusion of green tea may also occasionally be used in severe cases with advantage.

"The patients must, invariably, be placed in a room, in which a large fire is kept day and night.

"The ejections, and all other impurities, must be removed immediately from the patient's room. No solid food must be allowed the patients for, at least, five days after their recovery from a state of collapse.

"In exceedingly malignant cases, or when the patient has not been seen till late in the disease, and especially where neither vomiting nor purging are present, the stage of collapse being well marked, more active measures must be adopted. An ounce of the chloride of sodium, with half a drachm of the chlorate of potash or the chloride of potassium, is immediately to be given in cold water, and repeated, if necessary, every half hour until the patient has taken about three doses of this strong solution. If re-action ensues, it is to be kept up by the common saline powders; and if the strong saline given by the mouth fails, as a last resource, a saline fluid must be injected either into the intestines or into the veins."

To the above Dr. Stevens has appended the following remarks, to which we earnestly call the attention of our readers:—

"In no case," says he, "left to my care was the smallest quantity of opium or other destructive agent administered, until after the cholera poison was evacuated from the system; above all, not in the early stage; for, from what I have seen, I consider this narcotic poison to be as fatal in cholera as it is in either African typhus, or the seasoning fever of the West Indies; and I would urge on those interested, that if they would test the efficacy of the saline treatment, they must have sufficient confidence to trust to it alone, for to poison with opium, or cajeput oil, or to exhaust his nervous system with galvanic shocks, to depress the vital powers with extreme cold, and then, because at the same time with these deleterious agents, salines have been administered, to declare the patient has fallen a victim to Cholera, while under the treatment recommended by me, is not only to offer a serious impediment to the spread of a most momentous truth, but to propagate a lie. For results obtained by such a mode of treatment I am not responsible, nor can I allow, without entering my most earnest protest, such cases to be admitted as evidence in determining the value of the non-purgative salines as remedial agents in the treatment of Cholera."

Will our readers favour us with the details of the cases treated by them in the way recommended by Dr. Stevens himself in the above communication?

THE OPERATIVE SURGERY OF JOHANN FRIEDRICH DIEFFENBACH.

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(Continued from page 125.)

CHAPTER IV.

THE APPLICATION OF LEECHES.

Applicatio Hirudinum.

The capillary bleeding effected by leeches is attended with irritation of the skin from the bites, and increased afflux of liquids to the part. The leech in common use is the Hirudo Medicinalis of Linnæus, (Hirudo Septentrionalis, Sanguisuga Savigny.)

The amount of blood drawn by a leech is very variable, and may be reckoned at from two drachms to an ounce. It does not depend so much on the size and activity of the annellid as upon the vascularity of the part. The number to be applied varies according to circumstances. Thus, while one may suffice for an infant, for an adult, assailed with violent inflammation, as many as fifty may be required. They are placed either on the part affected, in the vicinity, or some distance from it, according as a local or a derivative abstraction of blood is indicated; thus, for example, in chest affections upon the anus; in suppressed menstruation over the sacrum. Situations are to be avoided where the integument is hard, because the leeches do not take well, and little blood is procurable; as, also, where it is thin, and there is much loose cellular texture, because the bleeding is apt to be excessive, and followed by ecchymosis. When applied within cavities a speculum is needful; as, for instance, in the vagina. For the mouth a glass tube will suffice.

As to the manner of applying the leeches there is but little deserving attention. When there is plenty of space, we have merely to place them in an inverted glass or cylindrical wire gauze cage, over the part until they shall have fastened. But, if more precision is desired, the surface may be covered with a piece of moist gray bibulous paper perforated with small holes, through which the leeches are allowed to bite.

The after-bleeding is to be encouraged by repeated dabbing of a soft sponge wrung out of hot water, or of a warm dry cambric napkin. It may, in general, be arrested by a firm pad; otherwise we endeavour to compress the minute orifice, by means of the finger, with a bit of amadou, a dossil of lint, or, what is better, a tuft of cotton wadding dusted over with powder of gum, which forms a kind of paste with the blood; or lastly, lint imbued with powdered colophony and spirit of wine. The effusion of thin fluid gypsum is annoying to the patient, and tends, moreover, to form a hard plug in the wound, which is very teasing. There is usually no difficulty in stopping the bleeding in adults; not so with children. The hæmorrhage from a single puncture has proved fatal to an infant in the course of a night. To avert impending danger from this source, the edges of the leech-bite are to be transfixed with a fine insect-needle, round which a thick cotton thread is to be wound, as in the operation for hair-lip, and the ends cut off to prevent accidents. The puncture should not include more than the epidermis at the margin. The needle is allowed to remain till the second or third day, and then taken out with forceps, having been first of all loosened by a rotatory movement from the thread to which it is glued with dried blood.

The application of caustic, or a searing-iron, to check the bleeding, is prejudicial, as productive of pain, irritation, and an unseemly scar. In like manner, the forcible introduction of minute dossils of lint into the orifices is reprehensible, because they increase inflammation, and get readily beneath the skin. I once attended a lady for a large abscess of the neck, which formed four weeks after leeches had been applied. On making an incision, I discovered in its cavity a lump of macerated lint.

Where the leeches seem reluctant to leave hold, they may may be sprinkled over with common salt, either in substance or in solution.

CHAPTER V.

VENESECTION.

Venæsectio, phlebotomia.

Venesection is the act of opening a vein, and is usually performed with a lancet. The situations commonly selected for the purpose are, the bend of the arm, the back of the foot, and the neck. Besides the lancet, are required a woollen roller about two inches broad, and an ell and a half long, to bind round the limb betwixt the heart and the point of puncture, in order to produce repletion of the peripheral veins; a small square compress, and a linen or calico bandage a couple of inches broad, and from three to four ells in length. A graduated vessel is used for receiving the blood where great accuracy is required.

The sitting posture is favourable for patients that are not bed-ridden, the recumbent for such as are feeble and disposed to faint. It is, however, sometimes desirable to procure—as in attempting to reduce incarcerated hernia—syncope, in which case the patient ought to be set upright in bed.

At the bend of the elbow either of the following veins may be opened:—the cephalic vein, the basilic, the median, the median basilic, the median cephalic, the radial, the ulnar vein.

The puncture of the cephalic vein is attended with no collateral risk save that of pricking the musculo-cutaneous nerve; the vein itself, in fat persons, is very small, and the subjacent parts much raised, so that it yields comparatively little blood. The other veins are more prominent. The basilic vein lies for the most part over the artery, accompanied by the median cutaneous nerve and several lymphatic vessels. The median vein, the median basilic, and basilic, adjoin the brachial artery, and are separated only by the tendon of the biceps or the brachial aponeurosis; over the median vein are some twigs of the musculo-cutaneous nerve. The young beginner ought to choose for blood-letting either the cephalic vein, the median or basilic, near the internal condyle of the humerus, and to shun any spot in which arterial pulsation can be felt.

The patient being duly placed, his arm is to be brought into a horizontal position and somewhat bent. The surgeon carefully ascertains the situation of the artery. He then binds the roller with a couple of turns round the upper arm moderately tight, from two to three inches above the point selected for the puncture, and fastens it with a loop knot on the outside; hereupon the veins become turgid. The surgeon, standing on the outer side of the arm, seizes the blade betwixt the forefinger and thumb a few lines from its point, and lays the left thumb upon the vein so as to fix and distend it just below the point at which the lancet is to enter, the other fingers being behind and beneath the olecranon. He now rests the remaining fingers of the right hand upon the arm, inserts the lancet into the vein, and raises it with the point outwards. If the vein is small he makes a slant incision, if voluminous a longitudinal one.

After a sufficient quantity of blood has been abstracted, he places the thumb below the orifice to arrest the flow, slackens with the other hand the roller, cleans the surface with a moist sponge, puts the compress over the cut after bringing the edges together, and applies the bandage, which is made to encircle the arm above and below the elbow-joint, in form of the figure of 8. The last ought not to

be bound too tightly, lest it impede the reflux of blood; or lest too slack, lest serious hæmorrhage supervene.

VENESECTION IN THE FOOT.

The patient having previously taken a warm foot-bath, to favour distension of the veins, a roller is wound round the leg, between the calf and ankle. The surgeon then inserts a lancet into one of the swollen veins; the most eligible being the great saphena, just where it dips into the depression, betwixt the first cuneiform and the navicular bone. Where the integuments are thin, care must be had not to injure the aponeurotic textures. Should the blood run very scantily, the foot must be re-placed in a warm foot-bath, and the amount estimated from the red tinge imparted to the water.

VENESECTION IN THE NECK.

The vein which is opened in the neck is the external jugular, just as it proceeds over the sterno-cleido-mastoid muscle. This operation is most frequently resorted to in the instances of persons apparently dead, as from drowning, where prompt relief to the brain is demanded. In order to procure adequate venous distension, compression must be exercised upon both jugular veins simultaneously. An assistant compresses with his thumb the vein of the opposite side, and supports, at the same time, the head, which must be inclined laterally, in order to stretch the skin and vein of the side for operation. The patient being seated in an arm-chair, the surgeon fixes the vein above and below the point intended for puncture with the thumb and fore-finger of the left hand, and then makes the opening in a direction from above downwards, exactly in the longitudinal axis of the vein. The incision must be larger than in venesection at the arm, otherwise the blood will not flow freely, and is apt to be effused into the cellular texture. The most convenient vessel for receiving the blood is a common saucer. On no account should the opening be slanting or transverse, otherwise the wound may gape, and allow the ingress of air, which might cause death.

After the bleeding is at an end, the edges of the incision are to be carefully brought together, and retained in apposition by means of a strip of plaster carried round the neck. For additional security, two or three other strips of the length of the finger are to be laid across this at the centre, like the figure of a star. A compress is then superimposed, a band brought round the front of the neck, and the whole supported by an ordinary cravat, which fits better, and is less irksome than a roller.

ACCIDENTS WHICH MAY BEFALL DURING AND AFTER VENESECTION.

Injury of the Humeral Artery.—This is recognised by a pulsating stream of venous mixed with arterial blood. Greater certainty is obtained by finding an arterial jet on compressing the vein inferiorly, while on compressing the artery dark blood only issues. After the requisite amount of blood has been taken, the surgeon is to dilate the cutaneous incision, carefully cleanse the wound of clots (pressure being made meanwhile by an assistant upon the arteries and veins, both above and below), and then encircle the arm with narrow adhesive strips to ensure intimate union. A pad of lint soaked in starch-paste or white of egg, shaped like a walnut, is to be laid over, and maintained in its position by the application of a flannel roller two inches broad and four ells long, similarly imbued. When the hæmorrhage is considerable, the application of a tourniquet to the upper arm is sometimes needful to prevent the dressing being disturbed by the flow of blood. All prolonged compression of the artery on the upper side of the dressing is prejudicial. By following the above directions I have rarely witnessed the occurrence of aneurism in a recent case, and the wound has often healed in a few days in the most kindly manner. Should a false aneurism supervene, it must be treated in the usual way.

The entrance of air into a vein can happen only in blood-letting in the neck. It is accompanied by a roaring noise in the chest. Immediate copious venesection at the arm, and closure of the cervical wound, will alone save the patient.

Incision of a large cutaneous nerve is accompanied with a sudden pain like an electric dart through the limb, and often leaves behind a mixed feeling of uneasiness and numbness. Cold applications, leeches, and, subsequently, compression and oleaginous frictions, are frequently of service. Should these not suffice, the cicatrix may be cut across; and this failing, an incision of from a quarter to half an inch long may be made above and below it. This I have sometimes found successful.

The lymphatic vessels are occasionally injured in blood-letting. They appear as red streaks on the side of the arm. The pain extends to the axilla, and the glands in this situation are apt to swell. These, however, are not constant indications of an injury of this nature, but may simply denote sympathetic irritation. Tepid saturnine epithems are useful in the commencement.

Lesion of the tendons and fascia, inducing a painful inflammatory affection, seldom manifests itself till some days have elapsed. It demands an energetic antiphlogistic treatment.

Inflammation of the veins, as a sequel of venesection, when not the result of constitutional causes, depends on a dirty state, or breaking of the lancet. It either follows inflammation and suppuration of the external wound, or it assails the vein even when the outer wound looks healthy, and abides long after that is healed. The vein, in the instance of circumscribed inflammation, feels like a short firm cord, surrounded by doughy substance. From the aperture in the skin pus may be squeezed out. In other cases, the inflammation extends not merely to the veins, but to the other soft parts, especially the cellular texture, between the muscles, and secondarily to the skin. The extremity becomes enormously swollen, and of a bluish-red colour. The mischief spreads to the axilla, is associated with formation of pus in the venous trunks, advances to the heart, and proves fatal amid the typhoid febrile symptoms, characteristic of phlebitis. The treatment is of a general description: the topical means are arm-baths, poultices, leeches, and incisions into the integuments, to favour the evacuation of pus and of dead cellular texture.

REVIEWS.

Mooltan, a Series of Sketches during and after the Siege. By John Dunlop, M.D., Assistant-Surgeon of H.M.'s 32nd Regiment. London: Wm. S. Orr and Co.

We have great satisfaction in noticing this very beautiful volume by Dr. Dunlop, because it illustrates most forcibly the great advantage which Professional men enjoy, more especially when their duty leads them into foreign service, from having at their command the resources of a liberal and refined education.

The curricula of our Universities do not of course include the study of many collateral arts and sciences which delight the Professional man in his leisure hours, and cheer him in those solitudes to which, if in the public service, his duty must often call him; yet still the mind, refined by study, and cultivated by the academical course, derives pleasure from the sister arts, which never withhold their inspiration from their willing votaries. To be a good draftsman is important to every Medical man; but to excel as an artist rarely happens to men whose Professional education too frequently stifles those refined tastes which, in after life, often prove of such inestimable advantage.

It is gratifying to know, that to a Medical man we are indebted for some highly graphic sketches of the events that led to the siege and taking of Mooltan—the Badajoz of the East. The Work contains twenty-one plates—master-pieces of the tinted lithography of Mr. Maclure, certainly one of the first lithographers in England, and who, by the way, we think would be able to give the best effect to anatomical drawings. We have a view of the fort of Mooltan from the West; sketches of the inhabitants whose bold indifference to danger induced them to advance almost to the muzzles of our guns and fire into our embrasures; a view of the *eedgah* where poor Vans Agnew and Anderson were so barbarously murdered; portraits of the brothers of the Dewan Moolraj; sketches of Major Edwardes' troops, with whom he did the glorious deeds of which he so modestly wrote, "no Englishmen could consent to be beaten on the 18th June;" we see them in the trenches; before the walls, with their camp followers and their camel drivers. Then we have the raising and re-commencement of the siege; the storming of the "*Mundee Awa*," or great mound, that dashing achievement so lucidly detailed in the official despatch by Brigadier Capon; the breaching of the Delhi gate and the explosion of the magazine with its 16,000 lbs. of gunpowder, that sublimely awful sight "which shook the earth for miles, and for hours darkened the atmosphere by a dense cloud, which hung like a mantle over the city;" then the fort after this great catastrophe, its side "marked by a long deep pit, around which buildings are piled on buildings, and scarcely one brick remains on another; where corpses, carcases of animals, and every description of property strewed the ground;" and where, with all the characteristic indifference of the people, Moolraj, when formally summoned by General Whish to surrender, "rammed the letter down his longest gun, and fired it back." The storming of the Knoonee Boorj Breach, the struggle in the town, the capture of the standards, Mooltan after its capture, and the breaching of the walls of its fortress are admirably delineated, and show the force and power of lithography and the skill of Mr. Maclure in a surprising manner. Next, we have the surrender of Moolraj himself, the last to pass through the gate of the fortress he had so long and bravely defended. "He was gorgeously attired in silks and splendid arms; he looked round without the smallest emotion, and showed in his countenance neither defiance nor dejection; but moved along under the general gaze, like a man conscious of deserving the admiration of even his enemies, for having done his duty to the last."

The "last scene of all that ends this strange eventful history" is the funeral of Vans Agnew and Anderson—an affecting and appropriate close of the historic tragedy of which their murder was the origin; and now "a battered mass of ruined fortifications, and a deserted city, is all that is left to tell of the Mooltan rebellion."

We have lingered perhaps longer over this splendid volume than becomes a Medical journalist; but if apology be needed, it will be found in the fact that its Author is of ourselves—a Medical man,—that he has done honour to our Profession. We rejoice to find a Work exhibiting so much literary and artistic skill emanating from a Professional pen. Its composition must have relieved the tedium of many a leisure hour in a foreign land—so may its perusal by our Professional brethren at home afford them many an interval of agreeable recreation, and above all inspire the young aspirant to cultivate the delightful and highly useful art of design.

Whether on the library or drawing-room table, it is a beautiful volume, and has our hearty recommendation.

Letters on the Truths contained in Popular Superstitions. By Herbert Mayo, M.D. Frankfort: Sauerlænder. Edinburgh: Blackwood.

The superstitions which chequer the horizon of the human mind in different ages, and which sometimes foreshadow the revelation of important scientific truths, ought not to be regarded as the mere hazy emanations of a disturbed imagination imposing on the credulity of the multitude. We may rest assured, that no faith, however apparently absurd, ever took a strong hold of the public mind without being founded in some fixed principles in nature. The duty, therefore, of the philosopher, is rather to watch with curious interest, than to turn away with ridicule and distrust,—for, as there can be no effect in the physical world without some fixed cause, so no belief will attain popularity without some cause for its prevalence. The law of sensorial illusions has explained away

the mysteries of second-sight, ghosts, and dreams the phenomena of mesmerism,—insensibility,—convulsions, — mesmeric coma, — sleep-talking,—explain satisfactorily the whole history of witchcraft and imputed demoniacal possession; hence, a science progresses, new light is thrown upon the shadowy forms of almost all popular delusions, until scarcely a marvel remains unraveled in the temple of Mystery. Our accomplished friend, Dr. Herbert Mayo, has therefore imposed upon himself a pleasant task,—upon the "banks of the romantic Rhine," at his agreeable retreat at Boppart, where we should imagine he is in the very "thick of the witch element;" and from whence we hope to receive many contributions to our Journal. He has, it appears, been walking about with the divining-rod in his hand, holding communion with ghosts and vampires until the twin-castles above his wizard residence, the Sternberg and Leibstein, must have been shaken to their foundation; he has, like another Manfred, dived into "the caves of death," propounding the nature of the trance which overcame Arnod Paole in the cemetery of Meduegna, and Timarchus, in the cave of Trophonius; and, having solved many other problems, which appear to float between this world and the next, and which might have startled a more timid spirit, he has sat him down in the solitary winter evenings by his red stove-side, and, with his magic pen, has traced, in letters to a friend in England, these mystical effects to their more mystical causes. He has thus, without the aid of Mephistopheles, whose name does not appear in a single letter, sat down like a philosopher; and has endeavoured, with patience and perseverance, to sift the grain from the chaff, the ore from the dross, and determine what are the truths contained in popular superstitions.

"There must be a real foundation," observes our Author, "for the belief of ages; there can be no prevalent delusion without a corresponding truth; the visionary promises of alchemy foreshadowed the solid performances of modern chemistry, as the debased worship of the Egyptians implied the existence of a proper object of worship."

True; but to a certain extent only: the crucible of the alchemist developed the existence of certain hitherto unknown metals; but the process was as practically analytical as any now adopted in our chemical laboratories. Not so, however, with a class of superstitions which are purely imaginary, the elements of which escape any mode of palpable demonstration. The vampire tradition, for example, appears to be a pure fiction; but our Author apparently thinks not, and has translated several stories of the kind from the German, which are obviously absurd and incredible. Nevertheless, as, according to his belief, there must be a certain amount of truth in every delusion, so Dr. Mayo hits upon the following explanatory hypothesis, viz.:—

"That the bodies found in the so-called vampire state, instead of being in a new or mystical condition, were simply alive in the common way, or had been so for some time subsequent to their interment, —that, in short, they were the bodies of persons who had been buried alive, and whose life, where it yet lingered, was finally extinguished through the ignorance and barbarity of those who disinterred them."

This hypothesis, however, only applies to the appearance of the body of the supposed vampire, and does not, in any respect, account for the very marvellous stories which are related of the persons bitten by them. In accounting for the appearance of ghosts, Dr. Mayo, we believe, is quite right in ascribing their supposed appearance to sensorial illusions; but we are scarcely prepared to admit his psychological explanation:—

"I shall assume it to be proved," he observes, "that the mind or soul of one human being can be brought in the natural course of things and under physiological laws hereafter to be determined, into immediate relation with the mind of another living person. If this principle be admitted, it is adequate to explain all the puzzling phenomena of real ghosts and of true dreams; for example, the ghostly and intersomnial communications with which we have, as yet, dealt have been announcements of the deaths of absent parties. Suppose our new principle brought into play—the soul of the dying person is to be supposed to have come into direct communication with the mind of his friend, with the effect of suggesting his present condition. If the seer be dreaming, the suggestion shapes a corresponding dream; if he be awake, it originates a sensorial illusion. To speak figuratively—*merely figuratively*—I will suppose that the death of a human being throws a sort of gleam through the spiritual world, which may now and then touch with light some fittingly disposed object, or even two simultaneously, if chance have placed them in the right relation, as the twin spires of a cathedral may be momentarily illuminated by some far-off flash, which does not break the gloom of the roofs below. The same principle is applicable to the explanation of the vampire visit. The soul of the buried man is supposed to be brought into communication with his friend's mind—thence follows as a sensorial illusion the apparition of the buried man. Perhaps the visit may have been an instinctive effort to draw the attention of his friend to his living grave."

All this proceeds upon the assumption of the cognate soul possessing the power of an intermediary communication between the dead and the living, and would doubtless explain many wonderful stories; but we are incredulous mortals, and in the faculty of invention find an easier solution of the mystery. Nevertheless, it is pleasant, in a poetical sense, to weave subtile theories like these; and thus we too have often amused ourselves on the banks of the Rhine.

As might be anticipated, the Author devotes one of his Letters to Mesmerism, upon the principles of which he might, had it occurred to him, have attempted the solution of many mysteries, such as second sight, trance, somnambulism, prevision, &c. Indeed, we are somewhat surprised, that he has omitted to notice the curious identity which appears to exist between the phenomena of mesmerism and the signs of witchcraft and demoniacal possession, as exhibited in the darker ages. There can be no doubt that nervous symptoms, insensibility, convulsions, ecstasy, &c., were developed in many of those cases; and these effects appearing to be supernatural, caused the unhappy creatures to be led to the scaffold or the stake. "No person," says the venerable Baxter, "was more backward to condemn a witch, without full evidence, than Judge Hale;" and Reginald Scott truly observed, "Many of these poor creatures had more neede to be relieved than chastised; and more mete were a preacher to admonish them, than a jailor to keep them; and a physician more necessary to helpe them, than an executioner or tormentor to hang or burn them." From the works of Joseph Glanvil, Henry More, Increase Mather, Reginald Scot, Hutchinson, and other writers upon witchcraft, a number of curious facts might be collected which would show that there is nothing whatever of novelty in the phenomena produced by mesmerism. But we must now close our notice of this little volume, which we recommend to the attention of our readers. It is written in a philosophical spirit, and will amuse all who feel disposed to peep occasionally into the world of wonders.

CHOLERA IN DUMFRIES.

[To the Editor of the Medical Times.]

SIR,—In the *Medical Times* of Saturday last, I observed, to my no small amusement and surprise, a letter from Mr. James Smyth, of Dromore-house, Coleraine, in which he claims to having *first* called my attention to the sensation, somewhat resembling an electric shock, experienced when in contact with a cholera patient. Had this been so, I could, and very naturally would, have told my young friend, that the peculiar phenomena alluded to had been recognized and described by me upwards of sixteen years before I had the pleasure of Mr. Smyth's acquaintance—before, I dare say, he had "entered upon his teens," certainly long before he could have been called upon to attend a cholera patient. In 1832, when epidemic cholera first appeared in this town, I had, in conjunction with my excellent friend, Dr. Bell, the medical superintendence of the Cholera Hospital. In December of the same year, I drew up a Report of the Cholera Hospital, which was transmitted to, and duly acknowledged by the then Board of Health in London. In that Report I mentioned the peculiar thrilling sensation above referred to as having been observed by me, and subsequently by others during the prevalence of the epidemic. To adduce further proof of the impotency of Mr. Smyth's claims would be, to "throw water on a drowned rat." Trusting, therefore, for Mr. Smyth's credit, that he may be more happy in his next *discovery*, and that no rude hand like mine will be stretched forth to snatch it from him,

I am, Sir, your obedient servant,

JAMES GRIEVE, M.D.

Buccleuch-street, Dumfries, Aug. 28th, 1849.

[To the Editor of the Medical Times.]

SIR,—My attention has been attracted to a Communication that appeared in your Paper, No. 517, of the 25th August, signed by Mr. James Smyth, Dromore-house, Coleraine, and announcing a claim of priority in observing a peculiar sensation imparted by the skin of persons labouring under cholera, and in the last stage of the disease. I feel it to be an act of duty to my colleague, Dr. Grieve, who is, and has long been, one of the Physicians to the Dumfries and Galloway Infirmary, to state thus publicly that he has repeatedly described to me the phenomenon alluded to—the thrilling or tingling nature of the impressions communicated, detailing the original discovery, and the circumstances under which it was made, many years previous to the second invasion of cholera, and I should conceive long before the professional sudies of my young friend, Mr. Smythe, had even commenced. I am likewise aware that Dr. Grieve has recorded this singular fact in his report of his experience of cholera in Dumfries in 1832.

It is not my intention to estimate the value of the observation, the influence which it may exercise upon the theories as to the cause, or nature, or propagation of cholera, or the connexion which it may be found to have with cognate phenomena, or with those noticed by Sir H. Marsh, &c.; but it is just and necessary, that, in all investigations upon the subject, the merit of the original observation, if merit there be, should be secured to its true author, Dr. Grieve.

I am Sir, your obedient servant,

W. A. F. BROWNE, M.D.,

Crichton Institution for Insane, Dumfries.

27th August, 1849.

[When we inserted Mr. Smyth's letter upon this subject, we expressed our conviction, that other Medical men in Dumfries had long since observed the "thrilling sensation" which he appears to fancy he had the merit of discovering;—and the above communication from Dr. W. A. F. Browne, whom we esteem as a high authority in all matters relating to Medical science, fully confirms our own conviction upon the subject. Were any evidence wanting to prove the non-originality of Mr. Smyth's observation, it would be irrefragably supplied by the following extract, alluded to by Dr. Browne, which we have taken from Dr. Grieve's Report of the Dumfries Cholera Hospital, dated, "Dumfries, Dec. 3, 1832."

"There is a circumstance," says Dr. Grieve, which, so far as I know, has not been mentioned by any writer on cholera, namely, a peculiar benumbing, or tingling sensation, exactly similar to a slight galvanic shock, felt on applying the hand to the skin of a cholera patient when in the collapsed stage, and more particularly when the body is bedewed with a cold and clammy sweat,—which extends from the extremities of the fingers to the elbow, and sometimes even to the shoulder; occasionally the impression is so powerful as to deprive the arm, for a few seconds, of sensation and motion; whether or not this peculiarity depends on some extraordinary state of the nervous system I cannot take upon myself to determine. It may not be uninteresting, however, to state, that not a single individual afflicted with paralysis, partial or confirmed, has been attacked with cholera."

To the above Dr. Grieve, moreover, adds in a note, "The same sensation was experienced by several Practitioners of the town."

We very often find that the ignorance of men upon what may be described as the literature of the Profession, gives a tone of self-importance to observations which have long since been made, but which, not being known to them, are supposed to be original. We, therefore, in a spirit of the utmost good nature, recommend Mr. Smyth in future to make himself a little acquainted with the history of such discoveries, as he may hereafter have the good fortune to make, before he arrogates to himself a merit which may have already been conceded to another.—ED. *Medical Times*.]

OXYDE OF SILVER IN CHOLERA.

[To the Editor of the Medical Times.]

SIR,—I am not aware, whether, amongst the numerous remedies that have been used in cholera,

any member of the Profession has recommended oxyde of silver; but, reasoning from its powers in checking uterine discharges, &c., I have, for the last few weeks, been ordering it in numerous cases of diarrhœa, accompanied with vomiting, in doses of one quarter of a grain every third hour, or oftener, until the purging subsides; and I may say, in most instances, found it eminently successful. This town (as I attribute it) from our excellent sanitary regulations for the last few years is extremely healthy, and free from cholera; and, I have, therefore, had no opportunity of testing the oxyde of silver in that deadly disease; but, through the medium of your Journal, I would call the attention of Medical Men practising in districts where the cholera exists, to give it a fair trial.

I am, Sir, your obedient servant,

Wm. Philpot Brookes, M.D., &c., &c.

Albion-house, Cheltenham, Aug. 14, 1849.

[The use of the oxyde of silver has been strongly recommended by Sir James Eyre and others in the treatment of dysentery and diarrhœa.

Pills of the nitrate of silver, in doses of from 1 to 2 and 3 grains every hour, combined with ¼ grain of opium, have been extensively employed by Mr. Ross. We expect shortly to be able to lay these cases before the public.—Ed. *Medical Times.*]

CASE OF SUBCUTANEOUS PARASITE.

[To the Editor of the Medical Times.]

Sir,—I send you the history of the following case:—

A—— M'L——, aged 13 years, a stout, healthy boy, complained, in May, 1848, of pain in the right side of abdomen, at first situated in the iliac region, but latterly extending as high as the hypochondriac region. He was troubled with this pain during the following six months, occurring at intervals with great severity I saw him, for the first time, in December of the same year; he did not then complain of pain, but of a feeling in the left side, as if worms were crawling under his skin; at the same time stating that several pimples had appeared where he felt the sensation, with a small aperture in the apex, through which a white sharp point was protruded resembling the head of a worm, and instantly retracted, as if the aperture were too narrow to allow the remainder of the body to follow. On examination, nothing abnormal was seen. He was ordered some simple medicine, and desired to let me know when one of these pimples occurred again. The next time I saw him, —about a month afterwards,—one of these pimples was situated within the areola of left breast, looking very like a small-pox pustule, with an aperture instead of a depression in its centre, at the bottom of which was seen the head of a white insect, slightly protruded and retracted. The boy mentioned, that since December a similar pimple had appeared on the back between the shoulders, and one on the top of left shoulder, plainly indicating that the insect, or whatever it was, had burrowed its way from the right hypochondriac region to the left breast by the back of the body. He was almost distracted, tossing and rolling himself in bed, not from bodily pain, but the idea that his skin was infested with worms. A small incision being made over the apex of the pimple, and pressure made round with the fingers, an insect, like a caterpillar, crawled out, and crept on an adjoining table for some time. Till put in spirits it was about an inch and a quarter long, as thick as a crow's quill, with six or eight feet on each side, the head sharp pointed, and the whole of a white colour. Since, the boy has complained of no uneasiness.

How was this insect introduced under the skin? Was the ovum, from which it was produced, deposited in the first place under the skin, or introduced into the alimentary canal, and matured there, then burrowing a passage through the various textures to the skin, which, from its greater toughness, it could not penetrate? This last is my own opinion, formed from the circumstance, that when attending school he was accustomed to eat his bread at the side of a spring, and having no vessel to drink out of, he drank out of the spring, when doing so he must have imbibed the ovum, from which the insect was produced. The facts may be relied on. I have heard of another similar case, where the insect came out in the thigh.

I should like to know if such cases are common, as I seldom see them mentioned in any publication?

I am, Sir, yours obediently,

A Young Country Practitioner.

Argyleshire.

[The analogous cases of subcutaneous parasitic larvæ are much more frequent in the lower animals than in man: as, *e. g.*, the *Œstrus Bovis*, or larva of the Gadfly, the ovum of which is deposited by the parent insect by a sharp instrument or ovipositor, which pierces the thick cuticle. More than one instance has, however, been recorded of larvæ, resembling that of the Œstrus, having been similarly developed beneath the human integument. The late Mr. Howship communicated a case of this kind to the Royal Society, the particulars of which, with a figure of the larva, which he called "*Œstrus Humanus*," will be found in the "Philosophical Transactions." In all these instances the ovum, which is afterwards developed into the parasite, is introduced from without, and the artificial clothing may account for the extreme rarity of such cases in our species.

As to the circumstance alluded to by our Correspondent, of this young patient drinking out of the spring, that is not so rare as the occurrence of a subcutaneous parasitic larva. We should like to see the country schoolboy who had not resorted to that primitive mode of quenching his thirst! We know of no larva of an insect with an organisation equal to tunnelling through the tissues from an internal mucous canal to the external tegument. The information of chief value in the present case would be the specific characters of the parasite in question; and the present communication, which afforded our young Correspondent a rare opportunity of making a welcome addition to helminthic pathology shows how much has been lost to him by the want of that elementary instruction in zoology which is afforded to the analogous class of Practitioners on the Continent. As a sharpener of the powers and habits of observation, its value cannot be overrated in the preparatory education of a medical man. One lecture on entomology would have rendered it impossible for an attentive listener to have had so rare an opportunity of examining a human subcutaneous larva and not to have determined the number of its segments, or "whether it had six or eight feet on each side."—Ed. *Medical Times.*]

OFFICIAL RETURNS—CHOLERA.

[To the Editor of the Medical Times.]

Sir,—I shall feel obliged if you, or any of your correspondents who have the opportunity, will verify the official returns that are daily issued of the number of deaths from cholera, as I have reason to believe that the cases entered in columns one and two, which relate to diarrhœa and rice-water evacuations, are often carried into the total column, thus presenting a most fallacious return, and causing unnecessary alarm. At the same time, I would observe that these official returns require so much care in filling up, that it is no wonder Medical men, in the midst of their necessarily increased practice, should fall into this error.

A Layman.

SOUTH LONDON MEDICAL SOCIETY.

The Adjourned Meeting of this Society was held on Thursday evening last, at the Literary and Scientific Institution, Borough-road, for the further discussion of the nature and treatment of the prevailing epidemic.

J. Hilton, Esq., President.

We are sorry that the nature of the discussion precludes our stating anything more satisfactory than we were obliged to do on the former occasion. Not that the gentlemen came unprepared to speak of that concerning which they had but little experience; but simply from the fact that, despite the very large experience of some, and the strenuous endeavours of all to combat the disease, it still continued to baffle their efforts. No Professional man, unfortunately, could leave the meeting, and say, "I am now better prepared to treat the disease." From opium to wet-blankets, from cayenne pepper inwardly to hot applications outwardly, all had been successful, and all had failed. As to contagion—with some it was decidedly contagious, with others as decidedly non-contagious; by one it was considered to arise from malaria, from bad water, bad sewerage, or other local causes; by others all these causes were repudiated; the contagionists brought facts to prove their position; the *nons.* also appealing to facts to prove theirs. Still, this one point is certain, that, whatever the conclusions as to the nature of cholera, or the causes which lead to it, if but a tithe of what was stated of the sanitary condition of some districts be true, (and we cannot impugn it,) the Profession, in the absence of a specific for cholera, must assume the position of a Preventive Body, and endeavour to preserve health where they confess they cannot cure disease. There may be some few who attach no importance to open drains, to bad water, and to fetid exhalations, as being productive of this disease; but if these have no influence, we might be inclined to ask why our olfactories scent them, or why, if Smithfield air be so beneficial, the atmosphere of our earth is not impregnated, as a rule, with its various odours.

On the whole, we fear that, in the present state of the question, science would hardly be advanced by our entering more largely into the discussion at the meeting; we believe it will be better—far better —for the Profession and the public, that Dr. Gull's recommendation should be acted on, and which accords with the opinion expressed by us last week, viz., for each Practitioner to gather up, statistically, the facts of his cases, giving the symptoms when he was called in, the stage of the disease, the age of patient, the locality, the treatment, and the results. When these returns shall be collected, classified, and compared, we may hope (at least) to learn something; and, if still a specific remains undiscovered, we shall at least have learned to discard those modes of treatment which appear to have been worse than useless.

It was the intention that a division should have been taken in the meeting on the question of contagion; but, on consideration, it was thought expedient not to do so, because of the influence it might have, if answered affirmatively.

MEDICAL NEWS.

Apothecaries' Hall.—Names of gentlemen who passed their examination in the science and practice of medicine, and received Certificates to practise, on Thursday, August 23, 1849:—Benjamin Webster, Morley-lodge, Leeds; Rawson Senior, Batley, near Dewsbury, York; John Earnshaw, Clitheroe, Lancashire; George Burnham, Great Grimsby.

Royal Infirmary for Children.—Dr. S. Wm. J. Merriman has been this day elected one of Physicians to the Royal Infirmary for Children.

Obituary.—On the 18th inst., at 22, Charlotte-street, Leith, Walter Bruce, Esq., M.D.—On the 21st inst., at 14, Clerk-street, Edinburgh, Dr. George Wigton.—On the 24th inst., aged 53, Dr. John Udny, M.D., Surgeon, Superintendent of the Cholera Hospital, Toxteth-park.—On the 25th inst., at Glasgow, William Crawford, Esq., M.D., late of Port-Glasgow.

War Office, August 28.—21st Regiment of Foot—Acting Assist.-Surg. Andrew Edge to be Assist.-Surg., vice Summers, promoted in the 3rd West India Regiment. 36th Foot—Surg. George Douglas Dods, M.D., from 3rd West India Regiment, to be Surg., vice Russell, deceased. 3rd West India Regiment—Assist.-Surg. John Summers, M.D., from 21st Foot, to be Surg., vice Dods, appointed to the 36th Foot.

The Cholera.—The returns from the provinces, in reference to the progress of the cholera, are anything but satisfactory. At Bristol, the disease has been on the increase. It has appeared at Liverpool, Oxford, and in some villages which were not visited in 1832. The deaths, in proportion to the attacks, continue also to be very great. In the week ending Saturday, August 25, the deaths, in London, were 2457; of which 1276 were by cholera, 238 by diarrhœa. The deaths from all causes, in each of the last seven weeks, were 1070, 1369, 1741, 1931, 1967, 1909, 2229, 2457; the deaths from cholera, 152, 339, 678, 783, 926, 823, 1229, and 1276. Although the number of deaths, last week, is greater than any number yet recorded, it is gratifying to learn that active measures are now in

actual operation, or commencing, in every district, to combat the great epidemic which has already destroyed 7470 lives in London. The mortality stands in favourable contrast to that which has been felt in other cities, where the visitation has recalled the ravages of the middle ages. But, if the general sanitary state and arrangements are superior to those of the other civilized countries of Europe, it is quite certain that, while the present epidemic has excited some talk and terror, the efforts which have hitherto been employed to combat it look feeble and insignificant when contrasted with the vast means and agency which are brought to bear by the nation in other fields for the protection of life and property. The energy with which parts of our institutions work makes the defects of the rest more evident. On August 9th last, a man was murdered in Bermondsey, and before his death, reported by the Coroner, will appear in these returns, one, and it is probable both the persons charged with the murder will be in custody. Steam-ships, the electric telegraph, the heads of the police, and professional agents, specially chosen, were all employed to arrest the destroyers of this life; the columns of the newspapers were filled with the details of the death. On the same day (August 9) a stock-broker died at No. 12, Albion-terrace, Wandsworth-road; a widow lady, and an old domestic servant at No. 6; in the five preceding days in the same terrace the daughter of a grocer, a child of five years of age, had died at No. 1; the widow of a coach proprietor and a commercial clerk, at No. 2; a gentleman's widow at No. 3; a surgeon's daughter at No. 4; a spinster of 41 at No. 5; the wife of a Dissenting minister, his mother, a widow lady, and a a servant at No. 6; a young woman of 21 at No. 10; a gentleman at No. 12, where the stock-broker died; a commercial clerk and a young woman of 19, at No. 13, where a young woman also died on July 28; a gentleman's wife at No. 14, who had seen her daughter die there the day before. The 19 persons died of cholera; many of the inhabitants of the terrace were dispersed; and the deaths of several have been registered elsewhere. "It appears," says the registrar, Mr. Frost, that at No. 13, inhabited by Mr. Biddle, where the first death occurred, and where two deaths were afterwards registered, the refuse of the house had been allowed to accumulate in one of the vaults (which is a very large one) for about two years, and, when removed last week, the stench was almost intolerable, there being about two feet of wet soil filled with maggots. The drains, also, had burst, overflowed into the tank, and impregnated the water with which the houses were supplied. On the back ground, in the distance, was an open ditch, into which nearly the whole of the soil of Clapham runs." As turpentine to flames, so is the exhalation of such cellars, tanks, and sewers to cholera; it diffused itself rapidly, attacked many, and 19 inhabitants, after some hours of suffering, sickness, and spasms, expired. The effects of decomposing refuse and water on health were well known—their fatal subsidies to cholera had been heard of every day; yet no steps had been taken for their removal from Albion-terrace in July, no medical police had interfered to disturb the contents of Mr. Biddle's cellar; and now the nineteen masters, servants, parents, children, rest in their graves, it appears to be taken for granted, that blame attaches to nobody—to nothing—to the householders themselves—to the guardians of the district—to the institutions of the country! Such mean intangible instruments of death can be invested with no dramatic interest; but fixing our eyes on the victims, it is well worth considering whether substantially it is not as much a part of the sound policy of the country that lives like those in Albion-terrace should be saved, as that the murderers of the man in Bermondsey should be hanged. The revelations of the state of their districts in the Registrars' notes of this and last week prove that it will be no easy task—I say, not to stay the plague of cholera, for it will subside—but to remove the evils which make cholera and all epidemics fatal. The vast task of the physical amelioration of the population demands the energies of the best men in Her Majesty's dominions. When, in the country from which Asiatic cholera came, our armies seemed for a moment worsted, and the empire threatened, the great captain of the age is reported to have addressed to another the memorable words, "If you do not go, I must." That enemy was distant. We have one very near, in our streets, of which cholera, a servile minister, has destroyed already 7470 lives in London, and thousands more in the rest of the kingdom. Who will go out against this enemy? Is it too powerful or too feeble for the arm of the greatest? Will no glory crown its conquest? Is the country insensible to its magnitude? Will not all the national strength and resources be put forth to improve the hygienic condition of the people, and to rid England of the causes of the fatality of epidemics? This may yet be done by the Government, aided by the force of facts and of enlightened public opinion.

British Homœopathic Association.—A meeting of this Association, of which the Duke of Beaufort and the Marquess of Anglesey are President and Vice-president, was held on Wednesday evening, August 20, at Willis's Rooms. The Report stated the number of members to be 1270, and also that 1300 volumes and 11,000 pamphlets on homœopathy had been distributed by the Association during the current year. After an Address from the Chairman, Mr. Sampson, followed by speeches from Captain Warde, R.A., the Hon. Augustine Moreton, Thomas Uwins, R.A., Drs. Quin, Chapman, and others, a resolution was carried for the immediate establishment of a London Homœopathic Hospital.

MORTALITY TABLE,

(Metropolis.)

For the Week ending Saturday, Aug. 25, 1849

Causes of Death.	Total.	Average of Five Summers.
All Causes	2457	1008
Specified Causes	2433	1005
Zymotic (or Epidemic, Endemic, and Contagious) Diseases	1714	302
Sporadic Diseases:		
Dropsy, Cancer and other Diseases of uncertain or variable seat	52	44
Tubercular Diseases	182	190
Diseases of the brain, Spinal Marrow, Nerves, and Senses	108	119
Diseases of the Heart and Blood-vessels	32	29
Diseases of the Lungs, and of the other Organs of Respiration	93	81
Diseases of the Stomach, Liver, and other Organs of Digestion	77	76
Diseases of the Kidneys, &c.	8	11
Childbirth, Diseases of the Uterus, &c.	10	7
Rheumatism, Diseases of the Bones, Joints, &c.	4	7
Diseases of the Skin, Cellular Tissue, &c.	...	2
Malformations	7	3
Premature Birth and Debility	31	22
Atrophy	37	[illegible]
Age	48	43
Sudden	8	8
Violence, Privation, Cold, and Intemperance	39	36
Causes not Specified	4	3

The following is the number of Deaths occurring from some of the more important special causes:—

Apoplexy.		Heart	29	Phthisis	123
Bronchitis		Hooping-cough	29	Pneumonia ..	40
Cholera.........	1276	Hydrocephalus	31	Scarlatina	18
Childbirth	6	Influenza	?	Small-pox	6
Convulsions...	39	Liver	13	Stomach	4
Diarrhœa......	238	Lungs...........	6	Teething	15
Dropsy	17	Measles	16	Typhus	77
Erysipelas ...	9	Paralysis	19	Uterus	2

BIRTHS AND DEATHS.

	Births.	Deaths.	Deaths over Births.
Males ...	664	1172	508
Females	653	1285	632
Total......	1317	2457	1140

METEOROLOGY OF THE WEEK.

	Mean of Barometer.	Mean of Thermometer. Dry.	Ditto. Dew Point.	Difference between the Mean Temperature of the day and the same day on an average of 7 years.	General Direction of Wind. A.M.	General Direction of Wind. P.M.	Amount of Horizontal Movement of the Air.	Rain in Inches.	Electricity*
Sunday	30·100	60·2	49·0	— 1·4	N.W.	N.	Miles. 25	0·00	P. and t... p.m.
Monday	30·212	61·5	53·7	+ 0·3	N.W.	W.	85	0·00	Nothing show[n]
Tuesday......	30·161	64·1	54·6	+ 3·6	W.	W.S.W.	15	0·00	P. and tension ... 3 pm.
Wednesday.	30·041	63·4	51·0	+ 3·7	W.S.W.	N.	45	0·00	P. and tension ... at 9 pm.
Thursday ...	30·014	62·2	55·4	+ 2·7	W.S.W.	E.	30	0·00	P. and tension strong.
Friday	30·025	63·3	53·3	+ 3·5	N.N.E.	S.W.	40	0·00	P. and tension variable between noon & 3 pm.
Saturday ...	29·982	65·9	55·5	+ 5·7	E.S.E.	N.W.	70	0·00	Occasly P. through day
Means ...	30·076	62·9	55·6	+ 2·6	N.W.	W.S.W.	SUM 310	SUM 0·01	

* In this Column, A. stands for Active; N. for Negative; and P. for P...

TO CORRESPONDENTS.

"Hermes."—*Post-mortem* digestion of the stomach is of frequent occurrence, especially in those who have suddenly died. Hunter first observed this phenomenon in a man who had his skull fractured shortly after he had eaten a hearty supper. On opening the abdomen, he found the stomach dissolved at its great end, and a large portion of its contents had escaped. Subsequent experiments have shown that the gastric juice after death exerts a powerful influence on the coats of the stomach.

"Anglican."—1. The license of the King and Queen's College of Physicians in Ireland is equivalent to a medical degree. 2. The Fellows are chosen from the Licentiates of three years' standing. They are required to have taken the degree of M.D. in one of the Universities of Dublin, Oxford, or Cambridge; or to have taken the degree of A.B. in one of these Universities, and to have received the medical education requisite for obtaining the license. These qualifications may be dispensed with when the number of Fellows is reduced to six.

"G. B., M.D."—We are not aware that any one has discovered the real nature of the semi-transparent structure referred to; it was, however, first observed by Breschet.

"Senex."—We can offer no opinion, as we have not yet seen the new Medical Bill.

"L."—The predisposition to general paralysis varies with the age.

"Civis."—(1) It does not follow that because there is one hole only produced by a ball, that it is therefore lodged. It may escape by the same place at which it entered. (2) A ball may split by striking against a sharp edge of bone.

"Juvenis."—(1) A pulsating erectile tumour is sometimes difficult to distinguish from aneurism. (2) A ligature might be useful.

"J. T."—Nitric Acid has been strongly recommended, and is worthy of a trial.

"A Surgeon."—The forceps is generally employed by dentists for the extraction of teeth. Several sets are used.

"Rus."—"Ramollissement" may result from an injury received many years previously. The symptoms are obscure.

"R.R.C."—We think the long straight splint.

"Querist."—A simple fracture may be attended with a wound; but unless the wound communicate with the fracture, it is not compound.

"M.D."—An extract for medical use ought to contain, if the active constituents of the substance from

"Edward, Liverpool."—The specific gravity bottle affords very accurate means of determining the comparative densities of liquids. It generally consists of a globular bottle, with a flat bottom and a slender neck, which holds exactly 1000 grains of distilled water at a certain fixed temperature.

"Pharmacopœia."—Mucilage answers better than an alkali for making an emulsion with castor-oil or copaiba; but the alkali forms the best emulsion with oil of almonds.

"Studens."—Specific gravity beads are hollow sealed globes of glass. Each bead is a small hydrometer, intended to indicate one fixed density, by its remaining half way between the top and bottom of the liquid into which it is introduced. The beads, we think, are sold in sets, each one being marked with the specific gravity it is to indicate at a certain fixed temperature.

"Jus."—It is possible for a person to receive a fatal blow without ecchymosis being produced in the part struck.

"———."—Ship fever is, no doubt, often produced by a foul state of the hold of a vessel. It by no means follows, however, that because a ship has a foul hold that she will necessarily be unhealthy; still, there are so many instances where this has been the case, that the converse may be considered the exception to the rule. In the Eclair, which was supposed to be perfectly clean, there was afterwards found a large collection of mud three inches deep.

"J. M., Gosport."—1. Chlorine possesses no acid properties. It has not a sour taste; does not redden the blue colour of plants; and shows comparatively little disposition to unite with alkalies. 2. The most convenient method of preparing it is by mixing concentrated hydro-chloric acid, contained in a glass flask, with half its weight of finely-powdered per-oxide of manganese. It should be collected by displacement of air in dry bottles.

"Galen."—Water, when it passes into ice, ceases to conduct an electric current.

"A Student."—(1) The Apothecaries' Company cannot admit a candidate to examination who has not served an apprenticeship to an apothecary for five years. (2) We believe that indentures from an Irish apothecary will be received.

"X. Y. Z."—It depends on the way in which it is contracted.

We fear "Amicus" does not sufficiently understand the question of medical reform. To frame a Bill which will please all parties passes the skill of our best legislators.

"M.R.C.S., London," mistakes the value on a purchased German diploma. It neither carries weight, nor increases the respectability of the possessor.

"S. D."—There is no law prohibiting any class of person from commencing business as druggists.

"Cutis."—Lichen tropicus occurs only incidentally in this climate.

"Doubtful."—A gentleman holding such a diploma would be duly qualified. A coroner has the power of summoning any properly qualified practitioner he pleases to give evidence at an inquest.

"B. P."—There is no fixed number of days. There is a range from 259 to 380 days.

"Viator."—We cannot furnish our correspondent with the information he seeks in reference to the medical school at Athens.

"A Constant Reader, Finsbury."—Hoblyn's Dictionary of Medical Terms will do.

"M.D., M.R.C.S."—A Surgeoncy cannot be purchased either in the Army or East India Company's service.

"A Subscriber, Kilkenny."—The French Government allows English surgeons to practise among English residents.

"R. W."—The communication contains nothing new; it is therefore, declined.

"A Sufferer" should consult some properly qualified medical gentleman, as we never prescribe in our columns.

"A Country Subscriber."—The meetings of the Society will be resumed in November.

"A Surgeon, Pangbourne, Berks."—We think medical students run no particular risks by residing within the walls of hospitals where there are cholera patients.

"X. Y. Z., a Subscriber of the 'Medical Times,' Deddington."—(1) A Member of the College of Surgeons, London, and holding only a diploma of the Dublin Lying-in Hospital, is not *legally* entitled to practise as an Apothecary in England. (2) We cannot say what the Company would do. (3) Yes; under the Government.

"A. J. Friend, Bristol."—We cannot give the address of the Doctor.

"M. D."—We fear our correspondent is liable to a prosecution.

"M. D., St. Andrews."—We quite agree with our correspondent that the diploma of the University is highly respectable.

"S. S., Longton, Staffordshire."—The reading is probably correct. We cannot call to mind any case recorded exactly similar.

"Mr. J. H. Goldsmith, Liverpool."—Received.

A Subscriber wishes some information on that form of cholera turned cholera sicca. What is the state of the patient, and what the progress of the attack, in the absence of the usual evacuations?

"A Reformer of Abuses."—Received.

"Dr. Cronin's" letter was received at the moment of going to press.

"Mr. H. H. Muggeridge, Reading."—Received.

ORIGINAL LECTURES.

HUNTERIAN LECTURES.

ON THE

GENERATION AND DEVELOPMENT OF THE INVERTEBRATED ANIMALS.

By RICHARD OWEN, F.R.S.,
Hunterian Professor and Curator of Museum of Royal College of Surgeons, Corresponding Member of the Institute of France, &c.

[Reported expressly for the "Medical Times," and revised by the Lecturer.]

LECTURE XII.

Generation of Crustacea.—Characters of the class and of its leading divisions—All true Crustacea diœcious, but the males of some Entomostraca problematical or unknown—Male organs of Cyclops and Branchipus—Widely diffused testes of Limulus and its double tubular penis—Male organs of Isopoda, of the Brachiurous Decapoda or Crabs, and of the Macroura (Lobsters, Shrimps)—Spermatophora; claspers—Complete bipartition and symmetrical arrangement of the male organs—Abnormal dimidiate hermaphroditism—Ovaria and external ovisacs of Branchipods—Dorsal winter-nests of Daphne—Large and diffused ovaria of Limulus—Internal organs and ventral marsupium of Isopoda and Amphipoda—Female parts of Stomapoda and Macroura: Bursa copulatrix of Brachyura—Impregnation of Cyclops by appended Spermatophora.

Mr. President and Gentlemen,—The class of invertebrated animals, the generation of which forms our present subject, may be by some supposed to have been commenced in the preceding lecture, for, in fact, if we were only acquainted with the Lernæans and Cirripedes in their locomotive larval state, without doubt these would have been classified with the Crustacea, and the barnacles more especially with the bivalve Entomostracans.

I know no class of animals which must impress us so strongly with the necessity of careful investigation of the individuals at every stage of their development than the two classes *Epizoa* and *Cirripedia*, in order to determine their affinities and position in the scale of nature. In tracing the progressive change of organs in the animal kingdom, the organs of vegetative life much more rapidly acquire their full development than those of animal life. In reference to the latter, we find a more regular gradation of perfection as the classes ascend in the scale. Take the Articulate sub-kingdom for example, the Entozoa may show a complete alimentary canal, with mouth and vent, and with salivary and biliary cœca: they may have the sexes separate, and the male and female organs marvellously developed, yet be devoid of every trace of a locomotive organ, and have a smooth, soft, continuous, lubricous integument. In the Annelida we found the integument firmer, but alternately harder and softer, so as to be divided into segments with flexible articulations, and in the higher forms of this class, each of the joints was provided with distinct limbs or members, although these presented the lowest form of simple tubes including protractile setæ. In the Epizoa we saw the limbs presenting a true jointed structure, although temporary; whilst in the Cirripedia several pairs of jointed limbs are retained in the adult state, but their rapid actions are subservient to the requisition of food, not to locomotion.

We now arrive at a class of articulated animals in which some or all of the annular segments of the skeleton of the body are constantly provided with articulated limbs or appendages; in which all the species are free and locomotive, and are provided with distinct respiratory organs. These animals are still, however, aquatic; only a part of the class can support themselves and move with their jointed limbs on dry land; the highest act of locomotion is that of climbing reeds or trees, which a few species of the present class are enabled to effect by long prehensile claws. But the breathing organs in all the species are organised for aquatic respiration; in other words, are branchiæ; and it is the combination of branchiæ with jointed limbs and distinct sexes which constitutes the essential character of the class *Crustacea*. The true branchial organs differ comparatively little in the different Crustacea; but in the land-crabs the chamber which contains them is enlarged, and the orifices are diminished, so that a quantity of water is retained for moistening or floating the branchial filaments; and, as fast as the oxygen in the water is exhausted, more is obtained from the air in which they live.

The name of this class refers to the modification of the external tegument by which it acquires due hardness for protecting the rock-dwelling marine species from the concussion of the surrounding elements, from the attacks of enemies, and likewise for forming the levers and points of resistance in the act of supporting the body, and moving along the firm ground. In the crab and lobster tribes the external layer of the integument is hardened by the addition of earthy particles consisting of the carbonate, with a small proportion of the phosphate of lime. This crust is coloured by a pigmental substance, diffused more or less irregularly through it; and it is formed upon and from a vascular organised membrane or corium, which is lined by the smooth serous membrane of the visceral cavities. In the smaller Crustacea the tegument retains a flexible, horny, or pergamenceous texture. In all the species the integument has for its basis a peculiar animal tissue called Chitine, which is not soluble in caustic potass, does not shrivel and consume like horn when burnt, but presents an analogy to the woody fibre of the vegetable kingdom. In the larger species, where this is combined with such a proportion of carbonate and phosphate of lime as to be firm and brittle, it is, as Aristotle has observed, less hard and less brittle than the true shell of the testaceous mollusks, whence that philosopher called them "Ostracoderma," but gave to the Crustacea the name of *Malacostraca*, which name is still retained for that division of the class, which alone was known to the Greek naturalist.

Whatever be the consistence of the external integument or skeleton, it is always disposed in a series of segments, either actually separate and moveable on each other, or confluent in a variable extent and degree, so as more or less to obliterate the traces of their primitive distinctness. Although the body is segmented, the segments are variously proportioned and combined, so as generally to permit the entire body to be divided into three parts, viz., the head, the thorax, and the abdomen; and most of the Crustacea manifest their peculiarly distinctive forms by different combinations and proportions of the same number of primary rings or segments. Each ring, again, consists of certain elementary parts, which, by varying their proportions, contribute to the peculiar form of the region of the body, into the formation of which they enter.

There may be distinguished in the annular segment of a Crustacean, a dorsal arch and a sternal arch, each consisting of a median and two lateral elements; the lateral elements in the upper arch are called "epimeral," and in the lower one "episternal," pieces; the middle element above, or "tergum," consists of two pieces united in the middle line, and that below, or the "sternum," has the same structure. In a great proportion of the class, the body consists of twenty-one of these rings, of which seven are more or less blended together to form the head, seven more obviously enter into the formation of the thorax, and the remaining seven constitute the abdomen or tail.

The Crustacea, with seven thoracic and seven abdominal segments, form the sub-class for which the name *Malacostraca* is retained; but a few large species, and a very great proportion of the smallest members of the class, have the thorax and the abdomen composed respectively of a greater or a less number of constituent segments than seven; these Crustacea form the class *Entomostraca*, which is subdivided into the *Xiphosura*, in which the last segment of the body forms a three-edged sharp pointed weapon, and into the *Entomostraca* proper.

The Xiphosura, typified by the *Limulus* or Molucca crab, have the head and thorax more completely blended together than in the true crabs, which they resemble in the general form of the body; but they are peculiarly distinguished from all other Crustacea by having the office of jaws performed by the first joint of the thoracic legs, which surround the mouth. The large cephalo-thoracic segment is protected above and laterally by an expanded semilunar shield, obscurely divided by two longitudinal impressions into three lobes, supporting the organs of vision on their highest part. The tergal parts of the segments of the second division of the body are also blended into one trilobate clypeiform piece, their original separation being indicated by the branchial fissures, and the number of the segments by that of the lamelliform appendages attached to their inferior surface. The termination of the intestine beneath the last segment of the second division of the body of the Limulus proves that division to answer to the abdomen in the Malacostraca; but, admitting the sessile eyes to indicate a distinct segment, not more than sixteen segments can be determined, by the appendages, to enter into the composition of the entire crust of the Limulus, including the sword-shaped appendage, which is analogous to the last or post-anal segment of the higher Crustacea, and consists of a single modified segment.

In the small Entomostraca, the number of the thoracic and abdominal segments generally exceeds that in the Malacostraca. The *Branchipus stagnalis*, for example, has eleven thoracic segments, and nine abdominal or caudal rings, besides a distinct head protected by a cephalic shield. In the *Isaura*, in which this shield is developed, as in the *Cypris*, *Daphnia*, and other Entomostraca, to the extent, and in the form, of a bivalve shell, enveloping the whole body, the number of thoracic and abdominal segments exceeds twenty four.

The distinction between the Entomostraca and Malacostraca in the number of the segments of the body is of the first importance in determining the affinities of the ancient extinct Crustacea, called Trilobites; to which subject I shall again refer in the comparison of their fossils with certain larval forms of actual Entomostraca.

We make the easiest and most natural transition from the lower forms of Articulata to the Crustaceous class, by passing to it from the larval forms,—which I have argued to be the typical ones,—of the *Epizoa* and *Cirripedia*: in which view we may regard the Crustacea as representing those larvæ on a gigantic scale, and so retaining the typical character with the faculty of locomotion.

All Crustacea, however, differ from the Epizoa in being branchiferous; and from the Cirripedia, in being diœcious.

But, with regard to some of the smaller Entomostraca, only the females have hitherto been discovered; and some naturalists have endeavoured, as in the case of the *Aphides*, to solve the phenomena of parthenogenesis in such Entomostraca by alleged gynandrism. Thus, in the genus *Apus*, the lamelliform respiratory sacs which, after death, get distended with blood, as Siebold has shown, were described by Berthold to be the testes co-existing with ovaria, which are large and conspicuous. Again, in the genus *Cypris*, Straus-Durhheim points out a pair of sacculi at the fore-part of the stomach, but, with his usual philosophic caution, doubtfully alludes to their nature as either testes or salivary glands: they appear to me to be homologous with the cœca in the Daphnia, which most comparative anatomists have agreed in determining to be the liver; there is no other part that could be mistaken for a male organ.

In the genus, *Daphnia*, the males are well known; they are always smaller than the female, but have longer and larger antennæ. Muller deemed these antennæ to be themselves the male organs; they are, however, only accessories, like the claspers in the sharks, being provided with a hooked claw for holding on. Straus points out a modification of the lateral borders of the shell, and suggests that thereby the valves of the female's shell are divaricated, and the sperm ejected into their inter space. The ovaria are simple cœcal tubes, coiled subspirally, one on each side the hinder half of the abdomen. Several groups of ova are successively hatched within the bivalve shell, and the young are excluded during the spring and summer; these young ones propagating in a similar way, without fresh impregnation: the males do not appear until the autumn, and the ova which are then impregnated are

retained in peculiar receptacles throughout the winter months, and are hatched in the following spring.

In Autumn an opake layer is developed on the inner surface of the common incubating cavity; which hardens in two pieces like a small bivalve-shell, with their concave opposed inner surfaces forming a special cavity when the valves are closed; this is called the ephippium, or saddle, being placed on the dorsal surface of the *Daphnia*, but beneath the common shell. Between the valves of the ephippium is formed a similar but smaller apparatus, attached only to the dorsal symphysis or hinge of the carapace, which also affects the form of a small bivalve shell: this is the "*ephippium internum;*" it includes, also, two bivalve capsules, in each of which an egg is lodged, which remains in the passive state through the winter.

If the mother have strength to undergo a moult after the formation of the winter nest, this is cast off with her outer skin, which remains with the ephippial apparatus, protecting the eggs during the winter. They are hatched by the early warmth of spring, and produce only females, which, after moulting three times, exclude a batch of ova. Now, if these be insulated, a successive production of fertile females may be observed to the sixth generation. But the germ cells retained unchanged in the developing *Daphnia* acquire the superadded yelk and chorion of an ovum, from which the young are excluded. The males are a later production, and the winter eggs are always the products of impregnation.

In the genus *Cypris* the ovaria consists of two long cœcums, curved, and applied to the sides of the hinder half of body, but covered by the shell, and opening exteriorly, one by the side of the other, at the fore-part of the extremity of the abdomen, where they communicate with the canal formed by the incurved tail.

The first two-thirds of the ovarium lies free in a capsule, formed by the membrane which lines the valves. The ova are minute at the blind beginning, but progressively augment in size as they approach the outlet, or the fixed vertical and terminal part of the oviduct. These little Entomostraca oviposit on some fixed foreign body, agglutinating their ova in a mass of some hundreds derived from several individuals, by a substance of a greenish filamentary structure like moss. Thus, like the ostrich, many individuals contribute to one nest. In four days and a half the eggs are hatched; the young come out in form like the parent; there is no metamorphosis, only the valves are of a slightly different form, and of a red colour. As the pools dry, they bury themselves in the sand or mud at the bottom; if that remains moist, the old animals survive; if it becomes dry, they perish, but their eggs retain their latent life, and are hatched on the return of rain. This explains the seemingly marvellous phenomenon sometimes observed in a shallow pool, which has been dried up in the summer, and may have long remained so, but which, in a day or two after it has been refilled with water, is found swarming with little *Entomostraca*.

In the *Branchipus stagnalis* we have another example of the rapidity of the appearance of swarms of individuals in recent pools through a similar economy of latent vitality of the ova. The *Branchipus* is characterised by the great number of its segments; the males are distinguished by their antennæ having long antler like terminal joints or processes, which serve to retain the female; and at the termination of the sperm-ducts are two intromittent plates. There are two sperm-sacs and two testes in the form of long and straight cœca, which extend the whole length of the tail; and from the anterior dilated end the sperm-duct proceeds inwards and backwards. Both sperm-ducts soon after their origin dilate into a sperm-sac; and then proto a swelling at the base of the tail, where they open near a spine-bearing peduncle. The *ova*, when they are impregnated, are received into an external capsule. When the pools are dry, the ova have the power of retaining life for two or three years.

To the sub-class *Entomostraca* belongs the great mollucca or king-crab. (*Limulus.*) The generative organs attain an enormous extent in this species; they are packed closely, interblending with the ramified cœca of the liver, in both male and female, throughout the body. In the female the ovarian tubes present the dendritic or ramified disposition. We distinguish the sexes by the external character of the first pair of thoracic limbs, which are short, swollen, and hooked in the males, while in the females they are long, straight, and pointed. On the first of the abdominal respiratory limbs there is a prominent tubular appendage, on which the sperm-duct terminates; in the female there is a simple perforation at the corresponding part.

No instance of parthenogenesis has been determined in the higher sub-class of Crustacea, called *Malacostraca;* but like other Articulata subject to periodical ecdysis, the Crustacea have the power of reproducing lost extremities. If a leg be fractured or severed across one of its segments, it is cast off by a violent muscular effort at the second articulation: if the Crustacean have not the power of thus ridding itself of the wounded member, it usually dies from the hæmorrhage; but this is immediately arrested by the contraction of the lacerated part of the joint where the limb is cast off with least difficulty and pain, and where a groupe of germ-cells has been retained in prospective preparation for the needful reproduction. A small cylindrical appendage first sprouts from the cicatrix, which soon after presents distinct articulations, and resembles in miniature the limb which it is destined to replace: its growth is slow until the period of the moult, when, if the animal be in vigorous health, the new member rapidly acquires its normal size.

There is no propagation by spontaneous fission or gemmation in the class *Crustacea:* every species is developed from ova formed by organs peculiar to one series of individuals, and impregnated by the fertilising product of organs as peculiar to another series. But, although the male and female organs are never naturally combined in the same individual, accidental or monstrous hermaphrodites occasionally occur, in which the male organ is developed on one side, and the female organ on the other side of the same animal. This dimidiate hermaphroditism, as I have termed it, has been most commonly observed in the lobster, and is indicated by external characters. The generative orifices open on the last thoracic leg on the male side, in which the abdominal plates are smaller and more simple; whilst on the opposite side they are broader and more ciliated, and the generative aperture is situated on the middle or third ambulatory leg.

This singular kind of malformation seems to depend upon the very slight connexion, or want of connexion, between the right and left generative organs of the same individual, whether male or female. The external apertures are always distinct on each side; and when a combination of the right and left generative organs does occur, it is by a partial union of the two testes, or of the two ovaria.

In the male *Cymothoa* both the essential and efferent portions of the male apparatus are distinct on each side: the testis is here much simplified, and consists of three elongated pyriform vesicles forming a common tube by the union of the short vasa deferentia, which arise respectively from the great end of each vesicle. In this and some other of the *Isopoda*, the disproportion between the male and female is still retained; and is almost as extreme in the parasitic *Bopyrus* as in the Lernæans.

In the *Astacus fluviatilis* the testes are blended together at the middle line along the posterior half of their extent, anterior to which they are separated and symmetrical: they consist of packets of minute contorted capillary secerning tubes. The vasa deferentia quit the gland at the junction of its three apparent lobes: they form many convolutions at the sides of the hinder part of the thoracic segment, where they may be distinguished by their opake white colour. They dilate into sperm receptacles in the last portion of their course, and terminate at the small prominent orifices at the basal joints of the last pair of thoracic legs.

In the *Maia* the testis consists of an elongated and convoluted mass of extremely minute vermicular tubuli, which mass is united by a slender transverse commissural process with the testis of the opposite side. The vas deferens is formed by the gradual enlargement of the tubuli, and is disposed in a number of close convolutions, and somewhat suddenly dilates into a spiral seminal receptacle, which terminates, as in the *Astacus*, on the basilar piece of the last pair of legs. In many crabs, however, as in the *Grapsus* and *Ocipoda*, the external opening of the male organ is found on the sternal part of the last thoracic ring. The terminal part of the duct can be everted by a kind of erection to form a temporary organ of intromission; and the Crustacea are singularly analogous to serpents in the double number as well as the structure of this part. Certain appendages of the first and second abdominal rings in the male crabs are probably connected as exciting organs with the sexual function.

The female organs present, like the male, a progressive complication of structure as the species ascend in the class. Most of the small Entomostraca carry the impregnated ova in appended ovisacs, like those of the Lerneæ. These sacs are not developed in the Limulus, which also differs from the smaller Entomostraca, inasmuch as the ovarian mass interblends its lobes and processes with those of the liver; the oviducts form more frequent communications with each other than in the higher Crustacea, but ultimately terminate, like the vasa deferentia, by two distinct but continuous orifices on the back part of the first abdominal lamelliform appendage.

The ovaria in the lobster are of great length on each side; the oviduct comes off from the outer part of nearly the middle of the gland, and descends to terminate at the basal joint of the third pair of ambulatory feet.

In the Brachyura the female apparatus reaches its highest state of complication, and consists of an ovary, oviduct, and a copulatory pouch, or spermatheca, on each side. The ovaria are elongated cylindrical sacs in the *Maia*, and are divided into an anterior and a posterior part, the short oviduct being continued from the union of the two: the anterior parts of the ovaria are united together by a short transverse canal; the posterior divisions are very intimately united through half their extent: the spermatheca is developed a little above the termination of each oviduct; and the sphermatophora and spermatozoa in this receptacle afford favourable subjects for microscopic observation.

The species of a genus of Macroura (*Mysis*) are called "Opossum shrimps" from carrying their ova during the process of development in abdominal recesses, analogous to the marsupial pouch; but this superadded complexity in the reproductive economy is common, under various modifications, to all the Crustacea.

The metamorphoses and development of the higher Crustacea will form the subject of the next lecture; but in concluding the present I shall revert to the Entomostraca in order to notice the singular generative economy of the Cyclops, discovered by Professor Siebold. In the male, the right antenna is peculiarly thickened and jointed a little beyond its middle, so as to permit it to be bent upon itself. With this organ the male seizes the female, and then grasps the base of her tail by the great hook of his hindmost pair of feet. After a slight resistance, she is quiet, and both gradually sink to the bottom. A cylindrical tube, fitted with sperm, escapes from the orifice of the male organ, and he seizes the tube as soon as it has escaped, and glues it to the abdomen of the female above the vulva. No female has this tube prior to the coitus, and none is without it afterwards. A male fit for coitus always has this tube or spermatheca in the lower dilated half of his seminal canal, and after the coitus it is no longer there.

On one occasion, Professor Siebold, disturbing the attached pair found the "sperm-tube" attached to the rounded end of the last pair of feet of the male, indicating the instrument of fixation. The females so provided are not, therefore, disdained by other males,—three, four, or even six spermatophora may be found attached to the same female. The sperm-tube consists of three different kinds of substance, spermatic matter, expulsatory cells, and

agglutinating matter. The action of the cells, in expanding, is to push out the spermatozoa, which as the sac is suspended to the ventral surface of the first caudal segment, thus escape close to the vulva

The Cyclops has a single testis, which is a pyriform sac concealed in the dorsal region, beneath or behind the heart. A long and wide sperm-duct descends to the inferior half of the body; then rises abruptly, and again descends by a sudden curve, to arrive at the sexual opening, which is simple, and at the middle of the base of tail. In the pyriform testis are sperm-cells and also spermatozoa. In the descending part of the sperm-duct is the spermatophore.

How they become occupied with their proper threefold contents has not been observed, but it does take place gradually as the spermatophore descends towards the spermatic outlet. There is no proper coitus, *i.e.*, the male does not intromit directly; but he appends or attaches the spermatophore to the female. Each spermatophore contains, besides spermatozoa, two other substances; one expulsatory, which swells in water, and expels the spermatozoa; the other coagulates in the water, and serves for the attachment of the spermatophore. The contemplation of the complex machinery requisite for this curious mode of impregnation, whilst it exemplifies the necessity of direct contact of the spermatozoa with the ova, must fill the mind with admiration at the perfection which is manifested in subserviency to the propagation of an animal, so minute and seemingly so insignificant.

LECTURES
ON
OPERATIVE OPHTHALMIC SURGERY.
DELIVERED AT THE CENTRAL LONDON OPHTHALMIC HOSPITAL.

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LECTURE V.

Question of binding up the eye after operating.—Patient to be sent to bed; rules enjoined; kind of aliment required.—Manner of cleansing the lids.—Examination of the eye.—Impropriety of premature examination.—Nature of success.—Causes of failure.

GENTLEMEN,—In the present lecture I propose considering the subsequent treatment, and the general results of the operation of extraction. It is thought by some absolutely necessary to bind up the eye, and various are the methods of effecting it. That usually followed, is to place a pledget of rag, either wetted, or dry, or smeared with some unguent on the lids, and confine it by a bandage. Strips of plaister are occasionally preferred; they are passed from the forehead, across the lids, to the cheek. I believe all such treatment to be highly objectionable. Any degree of pressure, however slight, on a wounded eye, can never be beneficial, and is always likely to be prejudicial. The heat and discomfort inseparable from coverings must often give a disposition to, if not actually produce, inflammatory action, which it should be our anxious care to avoid.

No appliance can improve the adaptation of the edges of the cornea beyond what is effected by the contact of the upper lid. For the fullest advantage to be derived from that natural covering the eye should be closed; and, doubtless, to accomplish that, it has been thought requisite to employ the contrivances I have mentioned. Really, such means are unnecessary,—for the patient has no difficulty in keeping the lids shut. If he is determined to open them, that bandage, or covering, must indeed be tight, that can restrain his folly.

Sometimes, for form sake, or to produce a moral effect when the patient has been nervous, and fancied that he would open the eyes unless a bandage were worn, I have attached a bit of cloth to the night-cap, sufficiently long to cover them, and over it passed very lightly a single turn of a common roller. But that has not been without its disadvantage, for the discharge of aqueous humour, and may be the lachrymal secretion, sometimes wets the cloth, whereby it adheres to the face and produces sufficient discomfort to disturb or prevent sleep.

I prefer to send my patient to bed immediately that the operation is over; and, to prevent inconvenience, perhaps accident to the eye, I require all the principal articles of clothes to be taken off before the operation, and a morning gown put on.

The globe of the eye should be kept quiet, and, although in a properly darkened room, (for light should be excluded from the apartment,) there is little tendency to move it about; the patient should be admonished respecting it. He should be told, also, to endeavour to suppress any inclination to sneeze or to cough. It is most necessary to have a nurse that can be depended on for attention, and the strict observance of orders. Patients, in all classes of life, will disobey medical orders, especially in matters of eating and drinking. The watchful eye of an attendant is often needed prior to operation,—for under the idea of keeping up courage and strength, strong drink is frequently taken before the surgeon's arrival.

Unnecessary talking should be avoided, and no subjects likely to create anxiety, or produce mental emotion, should be introduced; the greatest quiet should be observed.

To ward off injuries or blows, or the unconscious application of the patient's fingers, I like a large shade of some stiff material to be worn. To be sufficiently protective, it should completely encircle the temples, and extend from the forehead nearly to the tip of the nose.

For the first two days, the food should be of the simplest kind and fluid, or not sufficiently solid to require much mastication. Old persons are sure to grumble on a slop diet, and find some objection to almost everything that is proposed. Bread and butter, with tea, most generally pleases them.

As a rule, animal food and stimuli should be prohibited till the period at which inflammation is likely to occur has passed. Under special conditions, however, they may be required from an early period. I have known much prostration quickly follow the operation.

If, on the first day, at the usual bed-time, there is restlessness, with much disinclination to sleep, I prescribe some narcotic, unless I am told it is likely to disagree. I generally give hyoscyamus.

From day to day, the corners of the eye, and the lower lid, should be carefully cleansed of any secretion or incrustation that may be present. I fancy it is better not to meddle with the edges of the lids if they are clean and comfortable; the contact of any body, however soft, is apt to throw some of the orbital muscles into action, and produce pressure on the globe. After the second day, they generally become adherent, except at a spot or two, by which the aqueous humour escapes. I do not think that any disadvantage arises from the adhesion. If it is objected to, it may be prevented by applying some simple ointment.

When the edges of the lids do require to be bathed, the circumstances demanding it, viz., the presence of pus, or muco-purulent secretion, arises from inflammation; and there is great sensibility to touch. The least painful way of cleaning them is to fold a bit of soft rag, so as to form a point or angle, which should be dipped into warm water, gently drawn along the edge of each lid till the secretion is removed, and then a dry cloth used. Only just enough light should be admitted to see what you are about, or, if a candle be used, it should be shaded.

The lachrymal gland, sympathising with the injury the eye has received, pours out its fluid; and this, together with the aqueous humour, which continues to be secreted although the cornea is divided, passes from between the lids, either in gushes or by trickling. The lachrymal tubes seem incapable of carrying off the inordinate quantity.

When five clear days have passed without unfavourable symptoms, success may be looked for; and on the sixth, after the edges of the lids have been thoroughly moistened with warm water, should they be sticking together, the patient may be allowed, unaided by the surgeon's fingers, to open them sufficiently to enable him to discern any surrounding objects. Too much light must not be allowed for the experiment. It must always afford great satisfaction and delight when, in compliance with your request, any object is named by him. Then the bed must be resigned for the couch or arm-chair.

I am aware that so long a confinement is thought by many to be useless. There are cases in which it is unnecessary, but they must be looked on as exceptional; two of such have been in the Hospital this summer. John Bourne, aged 65, operated on June the 22nd. On the 25th, he told me that he had been trying his eye, and could see; and, on the 27th, he would, contrary to orders, leave the house. In autumn of last year I operated on the first eye, and it was not till the eighth day that he could open it. The second case was a male, aged 82, who was with difficulty kept after the third day. I have no doubt that the cornea had healed in twenty-four hours. Nowhere else is a patient so secure from injury as in bed; and, when it is remembered what is at stake, a few hours passed in the recumbent posture should not be considered burthensome. After the second day, I have no objection for the patient to rise to allow the bed to be made.

Light should be admitted into the apartment as soon as the eye will bear it; of course, gradually at first. As soon as the patient begins to move about, the eye commences to water more or less, even if it have not been running before, which, I think, is a pretty sure indication that perfect rest of the organ for the few first days is very necessary.

Exercise should be taken when circumstances will admit of it.

Restoration to sight is often effected without any inconvenience beyond the necessary confinement. Much pain rarely attends a successful case. When destructive inflammation ensues, it produces the most intense suffering.

I am desirous to warn you against the pernicious practice of opening the eye at very early periods, to see, as it is expressed, "how the case is going on." The desire is to expose fully the upper part of the cornea; but the patient not being able to open the eye sufficiently for the purpose, the upper lid, which is always very tender and sore, is raised, and he is told to look downwards, the pain which arises is certain to produce involuntary resistance, and all the disadvantage attending the spasmodic action of the orbital muscles is encountered. I am sure that many failures are produced by such interference. Several times have I observed the first bad symptom to commence from the period of the examination. If nothing worse follows, there is generally more or less pain, which may last for some hours. Should the cornea not have healed when the examination is made, the probability is that prolapsus of the iris is produced, by a gush of aqueous humour; and if it is already prolapsed, there will be an increase in the amount protruded. What is most to be dreaded is the accession of acute inflammation.

An early examination cannot be of use, if the case is progressing favourably; if otherwise, it will aggravate mischief; and in no instance can it disclose any symptoms for guidance, further than are indicated by the state of the lids, particularly the upper one, and the sensations of the patient.

During the confinement to bed, the action of the bowels must not be neglected; if the third day arrive, and no evacuation is passed, some slight purgative, as pil. rhei. co., or a small dose of oil, or an enema, must be given. As there is harmony of action between the eyes, that not operated on should be closed as long as its fellow, in order that it may be kept quiet.

When success is said to attend extraction, do not conclude that there has been perfect restoration of sight. Under the most favourable circumstances, the eye is never what it has been. There must be artificial compensation for the loss of the lens, and no ingenuity will admit of that rapid adaptation of the eye from near to distant objects, which is so essential to complete vision, and so beautifully provided for in the natural state. Besides, erroneous impressions are frequently conveyed by the too unqualified use of the term successful.

The popular idea of cataract is a scale, or film,

growing over the eye, and, reasonably enough, the blind man thinks that, on its removal, his eye will be as good as ever. The after necessity for glasses is unsuspected, unless they have already been worn.

As the surgeon will assuredly be questioned on the result of an operation, I consider it desirable—nay, his duty—always to let it be clearly under stood, that there are degrees of a favourable result, ranging from excellent vision to sufficient sight for the ordinary purposes of life, but scarcely for minute objects. That two sets of glasses are always required, the one for reading, writing, or examining near bodies, the other for distant ones. Further than this, he should be very careful, even under the most favourable circumstances, never to over-rate the chances of success, and induce the patient to think the operation infallible; and, above all, whenever there is the slightest indication to render the result questionable, all the particulars for and against operating should be made clear and intelligible to the patient, or to some confidential friend or near relative. These observations are meant to apply to all operations undertaken for cataract.

I had intended to give some cases of remarkably powerful sight after extraction, but desist, as it would detain you too long. Suffice it to say, that the eye may be capable of seeing any body however minute, that could be discerned before cataract affected it.

As an exemplification of far-sightedness, I may mention what a man, who was in the coast-guard service, from whom two cataracts had been extracted, told me:—"That, with his proper glasses, he could see a ship, or any object at sea, as quickly and as far as his comrades."

I shall briefly recount the usual causes of failure, which I arrange under the following heads:—

Acute Inflammation.—This appears early, generally within the first twenty-four hours. The conjunctiva is first attacked, and afterwards the other textures of the eye.

Almost suddenly, acute pain is felt in the eye-ball, then in and around the orbit. Purulent discharge soon follows; as may be expected, the vascular and nervous systems are deranged. The worst result is infiltration of the cornea with pus, and suppuration within the globe. The suffering induced is, in spite of all treatment, most intense. A less violent termination is thickening of the capsule of the lens, with adhesions of its divided portions, or adhesion of the capsule to the iris, or closure of the pupil.

The usual remedies supposed to subdue acute inflammation must be resorted to, with the exception of antimony, which may induce vomiting; for the same reason venesection should not be allowed to produce syncope. It is said that mercury will interfere with the healing of the cornea, and is contra-indicated. I do not know that such a prejudicial effect has been proved. But, beyond its use as a purgative, it could scarcely be available; for, if the inflammation be not subdued before the usual time required for the specific effect of that remedy, there could be little chance for the case.

Blood-letting and purgatives are, therefore, the means to be used, and the general principles of treatment must direct their employment.

I never saw a case in which there had been an accession of violent inflammation, notwithstanding the most active treatment, that did not terminate with more or less damage to the eye. If, on the first onset of inflammation, decisive and energetic treatment do not subdue it, hope of success must be resigned. After the best recoveries patients are debilitated, and the importance of not unnecessarily increasing that state is obvious.

I must guard you against taking the occurrence of any pain, however slight, as a signal for depletion. Numbers of the supposed instances of acute inflammation, said to have been cut short by active means, have been no such thing, and on many of the occasions the patients would have done better if left alone. Frequent attempts that have been made with the lancet and purgatives, to subdue slight pain, have sealed the fate of the eye.

Sub-acute Inflammation.—Mr. Tyrrell was ever desirous to impress his pupils with the important fact, that two distinctly recognisable forms of inflammation attack the eye after operation, both equally painful and destructive, and each requiring distinct treatment. The first has been disposed of, but, for the advantage of contrast, I shall recapitulate it previous to describing the second or sub acute form.

The acute inflammation appears at an earlier period; the lids are bright red, and the conjunctiva highly injected with red vessels, and the secretion purulent. The sub-acute comes on some days after the operation; the swollen lids scarcely have a blush of inflammation, being rather of a darkish blue, and infiltrated with serum, particularly the upper one. The secretion is thin and not decidedly purulent, and the conjunctiva scarcely vascular, although chemosed. The character of the palpebral swelling, and the nature of the secretion from the lids will offer sufficient guidance, and render unnecessary the opening of the eye to look at the conjunctiva.

The state of the system is the reverse of that in the acute attack; the circulation is feeble or languid, and the extremities devoid of their natural warmth. Depression of spirits and a sense of sinking are accompaniments. The treatment under such circumstances is to support the system. The hard, unyielding pulse of old persons, arising from the change that the blood-vessels have undergone, is likely to mislead. When the condition of the lids, and the feelings of the aged patient, indicate that general power is required, the hardness of the pulse must not be taken into account. On the other hand, we should be careful not to let it induce us to deplete *too much*, when there is some necessity for that treatment.

In no other set of cases narrated in Mr. Tyrrell's work is the effect of treatment more clearly and certainly shown, than those of sub-acute inflammation occurring after extraction. His practice was to give strong broth, or other nutritious matter in solution, with beer, wine, or spirits. Medicinally he prescribed carbonate of ammonia, and when there was restlessness besides, he combined opium with it.

I have been describing the well-marked extremes of the acute and sub-acute forms; instances, however, arise where the local and the general symptoms do not enable the practitioner to decide on the exact character of the inflammation, and the line of treatment is not clear. Mr. Tyrrell, to test the genuineness of such doubtful cases, recommends the carbonate of ammonia to be given in doses of 8 or 10 grains, with or without opium, and he says, if the inflammation be sub-acute, relief of the symptoms soon follows its administration, while, if it be acute, there will be an aggravation of them.

The first extraction I ever performed was followed by sub-acute inflammation. There was considerable pain; the cornea became hazy; the cut did not heal, and the iris was prolapsed. Large doses of liquor cinchonæ, with animal food and porter were given. The effect was very marked, and the eye was saved.

The circumstance made a strong impression on me. I had just commenced to attend Mr. Tyrrell's practice, and did not know his views; as yet his book had not appeared. Being then connected with a distinguished surgeon who was in the habit of adopting the antiphlogistic treatment most vigorously in all instances where pain followed an ophthalmic operation, I was about to imitate his practice, when the advice of a friend, to whom I applied, altered my intentions. When any pain is felt after the operation, my usual practice is to give a dose of hyoscyamus, and wait to see what ensues before adopting other means.

Prolapsus of the Iris.—This is the most frequent cause both of failure and of imperfect success, whether the prolapsus occur at the period of the operation, or subsequently.

With protrusion of the iris, the pupil is necessarily displaced, altered in form and restricted in motion, and the nearer it is dragged to the margin of the cornea, and the smaller the opening that remains, the less perfect will be vision.

The prolapse may be so great as entirely to destroy the pupil.

In some instances, the pupil, although displaced and irregular, is enlarged much beyond its natural size. The iris sometimes contracts an adhesion to the line of incision of the cornea, but does not protrude; the only disadvantage of which is, that the pupil is a little irregular, and cannot contract and dilate freely. Such an adhesion almost always follows a wound of the iris.

Of primary prolapsus I spoke when describing the operation.

Some of the causes of secondary protrusion are, rough handling of the eye, and opening it, or allowing the patient to open it, and move the globe about before the corneal section is healed; the occurrence of acute or sub-acute inflammation, straining efforts, pressure of any sort on the eye or sudden action of the orbital muscles. It frequently happens, when there does not seem to have been any reason for it. Tedious recovery is a pretty sure consequence; the delay of the healing process depending more on the extent to which the edges of the cornea are separated, and the position in which the iris lies, than on the amount protruded.

The projection of the flap of the cornea, and the protrusion of the iris is often considerable, yet, in the most aggravated cases, there may be such effectual reparation, that scarcely a trace of former mischief can be observed at the edge of the cornea. The eye should be kept quiet till the adhesion is firm. I object to any local applications; they are not needed, and in the majority of instances irritate an already inflamed and highly sensitive eye.

After watching, very carefully, many cases of prolapsus, both after extraction, and the result of accident, when the cornea has been divided or ruptured, and noticing the treatment adopted, I feel as certain as one can on such a point, that those in which there had been no additional irritation produced by the use of arg. nit., or anything else, make the best recoveries. Nor do I snip off any protruding part, for whatever is superfluous, and not needed in the formation of a proper cicatrix, nature is sure to remove quickly. The only occasion on which treatment may be serviceable is when the iris, bulging out considerably by the pressure of the aqueous humour behind it, forms what is called "staphyloma iridis," and inflammation arises from the mechanical irritation on the lid by the tumour of the prolapse. In the former, the staphyloma may be pricked with a cataract needle, the aqueous humour evacuated, and a better chance afforded for union by the approximation of the edges of the cornea. In the latter, local abstraction of blood, or purgatives, may, perhaps, be beneficial.

There is frequently irregularity of the pupil after extraction when neither prolapse nor adhesion is present. It is owing to the injury the iris has sustained during the stretching of the pupil for the escape of the cataract. The irregularity corresponds to the spot over which the cataract has passed, just, in fact, where the greatest stretching has occurred, and is therefore always in the direction of the corneal section.

Iritis and Closure of Pupil.—Inflammation of the iris may come on within a few hours after the operation without any apparent cause, or as the consequence of injury by the instruments employed. Except the iris were looked at, I do not know of any symptoms by which it is to be recognised from the acute inflammation that I have described. The pain, swelling, redness, and intolerance to light, are in both alike. A knowledge of the iris having been wounded would likely lead to a just suspicion of the nature of the affection. If mercury, the valuable agent in iritis, is contra-indicated on account of interfering with the healing of the cornea, we must employ the same means that were mentioned when speaking of acute inflammation after extraction, and the eye need not be subjected to an examination.

But iritis commonly appears four or five days, or later, after the operation, and cannot be traced to injury. The last case I had, was in the autumn of 1848. On the sixth day the eye was opened, and success pronounced; on the seventh, iritis appeared, and the pupil was closed. Giving credence to the

tales I had heard and read of the likelihood of the adhesion of the cornea to give way when mercury is exhibited, I did not employ it. In future, in parallel cases, I shall certainly try it, and judge for myself. Belladonna should be used from the first indication of the attack. (a)

The Cornea not uniting by the First Intention.—The period at which union is effected varies, it may be, from the second, to the fourth, or fifth day. When it is not effected within the latter period, the eye is always in danger from inflammation, generally of a low type, that is set up, and the iris is prone to be involved in one of two ways,—by prolapsus, or by becoming inflamed.

On the 30th November, 1843, I extracted two cataracts from an old female inmate of the Stafford Almshouse, in Gray's-inn-lane. She seemed to make favourable progress; but, when the eyes were opened, the corneæ, contrary to my expectation were not united. On the 31st December, the right cornea had not quite healed. The aqueous humour spirted out in a very fine stream while I was examining the eye, there being a sort of fistula. In the left eye there was even less adhesion. A very slow inflammation invaded each iris, and the pupils were closed. The corneæ did not become opaque, as is usually the case. Ultimately the cuts were closed. The globes did not shrink. A great deal has been said about the cornea not uniting from want of sufficient general power. Although there can be no doubt that a great many of the cases evince that deficiency, and require to be supported, and the circulation invigorated, it has been too much the fashion to attribute failures of union to such a cause.

I had almost forgotten to mention, that aquocapsulitis may appear several days after extraction producing considerable lachrymation, and more or less intolerance of light, but not much pain. There is usually no vision while it lasts. It ultimately gets well, and sight is restored.

It is not uncommon for acute conjunctivitis to supervene some days after the patient has been moving about.

It must be remembered, that an operation on an unhealthy eye will, in almost all instances, fail. hence the necessity for great discrimination and judgment in the selection of your cases.

When, after operation, the globe gradually shrinks without the occurrence of active inflammation, and sufficient time for chronic inflammation to produce disorganisation, you may conclude there was a previously diseased state. I gave one example of this in the third lecture. Without any of the circumstances that I have mentioned having occurred, and without any apparent cause, at the usual period of examining the eye it may be found amaurotic. Only one example has come under my notice.

Having scarcely alluded to the satisfactory results that attend extraction, and dwelt at length only on the failures, and given a long catalogue of dangers and disasters, I fear that I have made you regard it as a formidable affair. In competent hands, the difficulties of the operation, and, consequently, the principal dangers attendant on it disappear.

I have said that prolapsus of the iris, whereby the condition of the pupil is affected, is the common cause of failure. I used the word failure, because virtually it is such when the extraction does not restore sight; but the power of seeing may yet be gained by a second operation, in the formation of an artificial pupil, in those instances, and where iritis has closed the natural pupil.

You must see a large amount of practice before you can be personally acquainted with all the untoward results I have described. Let me assure you, that with well-chosen cases, carefully conducted operations, and judicious after-treatment, the results will fully satisfy you.

(a) Since the above was delivered, I have been informed by my friend Mr. Browne, Surgeon to Belfast Ophthalmic Institution, that he never hesitates to give mercury in inflammatory attacks after extraction, and that he does not believe that its exhibition can prevent the healing of the cornea.—H. H. W.

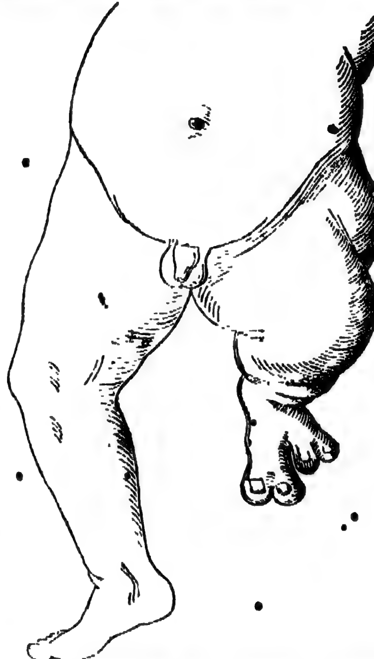
ORIGINAL CONTRIBUTIONS.

THE ANATOMY OF A MISDEVELOPED LOWER EXTREMITY.

By WILLIAM BRINTON, M.D. Londin., Demonstrator of Anatomy in King's College, London.

The following case occurred in the practice of my friend, Mr. J. Gordon Bailey, of Pentonville. The mother attributed the malformation to having been frightened by a cripple during pregnancy. The child lived several months, and died of pneumonia.

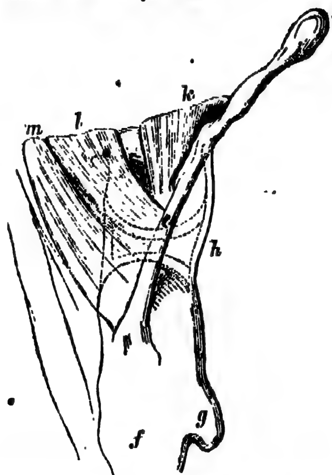
The size and general appearances of the limb are sufficiently represented by my sketch. (a)



The limb was exceedingly moveable in the middle of the short thigh, being capable of very extensive flexion and extension, abduction, adduction, and considerable rotation. At the knee-like projection, no motion could be produced. Elsewhere, or at the ankle and the toes, the ordinary articulations could be detected, and the usual movements produced.

As the removal of the limb was forbidden and impossible, I made a rapid dissection of its interior, of which the following is a brief description.

There was no cotyloid cavity. But a large and longly convex mass of cartilage *a*,



with a smooth surface, projected in its place from the innominate bone. Below, the femur opposed it a very similar, but more pronounced convexity *c*. An interarticular fibro-cartilage *b*, like that of the jaw, separated the two surfaces, and a capsular ligament of considerable strength *h* completed the joint.

A strong cord-like ligament, taking very much the course of the ilio-femoral, strengthened the anterior surface of this joint. The muscles of the thigh were all present, though very short. The pectineus *l*, the adductor longus *m*, and the iliacus *k*, were inserted into this cord-like ligament. Beneath it the adductor brevis and adductor magnus, joined the articular capsule; while the obturator externus and small rotators and abductors were inserted into the posterior surface of the capsular ligament, and chiefly into the rim of the meniscus of cartilage.

There was no knee joint; but the notch between *c* and *d* in the vertical section indicates the site of junction of the femur and tibia. The shaded part *n*, in the same figure, represents the inner surface of the rudimentary condyle, the united bones having been divided in their middle and antero-posteriorly, as well as vertically. A tubercle *g*, on the outside of the limb indicates the only rudiment of a fibula present.

The ankle joint, except in the absence of the fibula and the muscles attached to it, appeared normal, as did the tarsus.

The cloven foot consisted of two elements; each of these has three segments. The terminal one is double in both. The middle one is broad, short, and single, in both. The outer posterior segment is single, and is capable of being identified as the fifth metatarsal bone, with which, perhaps, the fourth is conjoined. The inner posterior segment is double; and, from the striking uniformity thus manifest throughout the three segments of this double toe, it seems most likely to be the second and third,—the more so, that the inner line of the tarsus runs straight backwards, without any depression corresponding to that caused by the posterior and inner extremity of the first metatarsal bone, or great toe.

(a) The engraving somewhat exaggerates the size of the malformed limb.

ON SCARLATINA.

By J. W. TRIPE, M.D., M.R.C.S., and L.A.C., London.

(Continued from page 179.)

B. f. Although no difficulty whatever exists in ascertaining the number of deaths in the two sexes at various periods of their existence, yet some considerable difficulty, and a vast amount of calculation, together with very numerous Tables, would be required to properly appreciate the statistics; as the proportionate number of males and of females dying, varies very greatly at the different ages. Thus, 23·349 per cent. of males of the whole number, and only 17·902 of the females, die in the Metropolis before they reach the age of one year; 15·979 per cent. of males, and 15·029 per cent. of females, die between the ages of one and of three years, &c. Now, any Table showing the mortality in the two sexes at the different ages, ought to take into consideration the tendency of disease generally, to prove more fatal to males at one age than to females, and *vice versa*; and to calculate the proportions. These could scarcely be inserted in a weekly Journal, more especially as allowance also would have to be made for the preponderance in the births of males over that of females.

Out of a gross aggregate of 43,540 deaths from scarlatina in various years in England and Wales; 21,887 occurred in males, and 21,653 in females; the actual preponderance, therefore, happened in

the male sex. But as 1,237,986 deaths of males, to 1,200,189 deaths of females happened in England and Wales in the seven years 1838—1844, the proportion of males was not so great as that which occurs from all causes. I make use of the term "all causes" in preference to all kinds of disease, as these numbers include deaths from accidents, suicides, &c.

In the five years 1842, 1843, 1844, 1845, and 1846, the proportions in the metropolis were rather different, as out of 8133 deaths from this disease, 4192 happened in males, and only 3941 in females. Of the 4192 deaths of males, 378 happened during the first year of existence, 1423 between the ages of one and three years, and 1149 between three and five years; making a total of 2850, or about 68 per cent. of the total number. Of the 3941 deaths of females, only 314 occurred during the first year, 1337 between one and three years, and 1027 between three and five years, amounting to 2628 deaths, or about 66 per cent. As, however, the age of the persons dying becomes greater, the mortality in females also becomes greater, until between the ages of ten and fifteen, when the number of deaths in the female sex exceeded those in the male, and continued to do so up to between fifty and sixty, differing in this respect very materially from the returns of deaths from all causes. It will, perhaps, be better to put these statements into a tabular form.

DEATHS from SCARLATINA within the METROPOLIS, Years 1842—46.

	$\frac{0}{1}$	$\frac{1}{3}$	$\frac{3}{5}$	Total under 5 years	$\frac{5}{10}$	$\frac{10}{15}$	$\frac{15}{20}$	$\frac{20}{30}$	$\frac{30}{40}$	$\frac{40}{50}$	$\frac{50}{60}$	$\frac{60}{70}$	Above 70 years.	Total between 5 and 70 years.
Males...	378	1423	1149	2850	948	118	34	46	38	16	15	4	3	1249
Females	314	1337	1027	2628	908	168	41	58	15	17	10	8	3	

We thus see that the comparative fatality of scarlatina in the two sexes varies according to the age; being greatest in the male sex during the first decennial period of existence, and greatest in the female during the second, third, fourth, and fifth decennial periods, and must, therefore, suppose either that a less predisposition, or a greater power of resistance to the virus of scarlatina, exists in the female child during the first ten years of its life, when compared with the male, and the contrary.

The pathology of the disease forms the concluding part of this memoir. By the term pathology I do not only mean those morbid changes induced by the disease which are evident on a *post-mortem* inspection, but the various pathognomonic deviations from healthy action that occur in the tissues or fluids during its course. We are not, unfortunately, sufficiently acquainted with the healthy action and chemical composition of the solids and liquids of the body, to determine precisely when they are normal, and when abnormal; but yet, so many steps have of late been taken in the right direction to elucidate these most important branches of knowledge, that we must not despair of being tolerably acquainted with them hereafter.

The deviations from a healthy state of the fluids and solids of the body during an attack of scarlet fever may be divided—firstly, into those which are perceptible to the unaided senses, as the pyrexia, the œdema of the skin, the redness, swelling, and ulceration or sloughing of the fauces, tonsils, or adjacent parts; the morbid appearances of the alimentary canal, kidneys, &c.; secondly, into those which may be detected by the chemist, as the increased amount of fibrine in the blood; thirdly, into those which may be deduced from, or discovered by a microscopic examination of the diseased parts, or of the disordered secretions; and, lastly, into those which cannot be proved either by our senses when unassisted, nor when they—our senses—are assisted by chemical and microscopic aid. The three first of these classes into which deviations from healthy structure are divided, have been already as fully considered as our space will admit of, but the last has not as yet received any consideration.

It is very evident, that some permanent alteration must be effected in the body by the action of the scarlatina virus on it, inasmuch as a membrane that has once been attacked, is ordinarily rendered insusceptible to the disease in future. This peculiarity is shared by the other exanthemata. On what does this peculiarity depend? Does it arise from a modification of the blood, or of the tissues, or of both? These questions can be answered, and many other points in the history, &c., of the disease, can be elucidated—only by a consideration of the laws of poisons generally, and especially of the morbid poisons. In addition to these, it would be necessary to ascertain as clearly as possible, the functional and organic changes induced in the body by the poison; but as this would involve the consideration of nutrition in its widest acceptance, including healthy, and that variety of abnormal nutrition, which is known as inflammation, and also a consideration of the forces by which the blood is circulated in the capillaries, we must almost entirely pass over their consideration. Dr. Robert Williams, in his elaborate work on morbid poisons was the first clearly to point out the analogy between the action of the ordinary and of the morbid poisons. The laws which he pointed out are the three following:—"Firstly, that all poisons have certain definite and specific actions; secondly, that they lie latent in the system a certain definite but varying period of time before these actions are set up; and lastly, that the phenomena resulting from the poison when roused into action, vary according to the dose or predisposition of the patient. These laws are common to all poisons or classes of poisons." (P. 3.) To these laws we may add a fourth and fifth, viz., that the specific action of poisons depends on the affinity existing between the liquids and solids of certain parts of our organism, and the poison ingested; and fifthly, that this specific action ceases on the elimination of the poison from the system. The first law is one almost universally acknowledged, and forms the basis of the remedial part of the physician's art; for, unless medicines had definite and specific actions, they would be valueless as remedies. As instances, we may adduce hydrocyanic acid, strychnia, castor oil, &c., which are severally known to produce, when taken into the fabric, certain determinate and invariable effects. It has long been admitted, that certain medicines—poisons—act more or less invariably on certain membranes or organs, or on certain sets of membranes or organs; but that the action depends on an affinity between the elementary tissues, or part of them, of the organ so acted on, and the poison itself is less universally allowed, although it is, nevertheless, equally as true. In poisons of this class are included antimony, arsenic, copper, strychnia, and many others. In proof of this position we may adduce the experiments of Blake, as quoted in the *British and Foreign Medico Chirurgical Review.* (July, 1848, p. 181-9.) He states, that his experiments warrant the following conclusions:—"The various substances—mineral medicines—may be arranged into groups according to the similarity or dissimilarity of their effects, each group being distinguished—by re-actions not to be found in any other class, whilst the reaction of each of its members closely resemble each other. The classes thus formed agree with those which are adopted by chemists in their arrangements of the different elements according to their isomorphous relations; and the only conclusion to be drawn from this interesting coincidence is, that the physiological action of these substances depends upon some property they possess in connexion with their isomorphous relations." Thus, potash and ammonia produce analogous effects; strontia, baryta, and lead; soda and silver; lime, magnesia, zinc, copper, manganese, nichel, and cadmium; platinum, palladium, iridium, and osmium; phosphorus, arsenic, and antimony; selenium and sulphur; and, lastly, chlorine, iodine, and bromine, form separate classes, each of which have the most striking analogy in their physiological actions. The metallic salts in general; the salts of potash and baryta, arsenic and phosphoric acids, agree in destroying the action of the heart; the greater part of the acids, and of the salts of silver increase its irritability. The dose, however, of these substances necessary to produce their specific effects vary very considerably.

The second law, that all poisons lie latent in the system for a definite but varying period of time, admits of but one exception, and that is more apparent than real, inasmuch as although comparatively the action is instantaneous, yet a certain short interval elapses between the taking of hydrocyanic acid and its effects. Narcotics, purgatives, diuretics, and other classes of medicines, all occupy a period of time of longer or of shorter duration, according to the condition of the patient as regards plethora, state of constitution, &c., and also according to the greater or lesser time ordinarily occupied by each medicine in producing its effects.

As an example of the third law, Dr. Williams adduces the action of oxalic acid. If this poison be taken in a small dose, death ordinarily results from inflammation of the stomach; whilst if the dose be very large, death may happen in a few minutes from the shock to the nervous system. We here have a good example of the modification induced by a variation in the dose: tartar emetic may be mentioned as another example.

The fourth law, that the specific action of poisons depends on the affinity existing between the liquids and solids of certain parts of our organism, and the poison injected, does not admit of so ready a proof as the other laws. The following considerations may be adduced in favour of it:—firstly, that the ordinary action of a medicine may be induced on the distant organ, or organs, whenever it finds its way into the fabric, whether it had been introduced by the stomach, or injected into the blood. The experiments of Dr. Blake, already related, afford strong confirmation of this statement. The well-known fact, that particular purgatives will act on definite parts of the alimentary canal, that diuretics act on the kidneys, mercury on the liver, iron on the blood, all prove the same. Additional proof is also afforded by particular poisons attacking only particular viscera or tissues; and by their being found in greater quantity in certain organs, or tissues, as copper in the lungs, arsenic in the liver, &c., and in certain secretions, as sulphuric acid in the urine.

The results of the disease caused by the introduction of the morbid poisons into the blood tend to the same end. Mr. Paget, in his Lecture on Nutrition, &c., (published in the *Medical Gazette*), adduces the Essays on Symmetrical Diseases, which were written by himself and Dr. Budd as evidence that all diseases in which the two corresponding portions of the opposite sides of the body are similarly diseased, depend on the circulation of a morbid material in the blood, and an identity of composition in the tissues affected. He then proves, that certain morbid poisons, or other morbid matters, have certain "seats of election." Thus the syphilitic poison attacks in some patients corresponding portions of the tibia and of the skull with great exactness. The pelves of two lions were exhibited, in which new osseous matter had been deposited, by a rheumatic disease, producing an irregular kind of patern, both sides being precisely alike, thus proving beyond a doubt that the specific action of the morbid poison must have resulted from some affinity between it and the tissues attacked.

That the specific action of the poison ceases on its elimination from the system, cannot be very readily determined, as we cannot easily ascertain when the whole of the poison has passed out. Perhaps the best and most certain method of determining this point, is to examine chemically the urine and other secretions—excretions—to ascertain

g a period the poison is passing off. But is has been, and may be readily done in e of mineral poisons, yet it cannot be applied to the class of morbid poisons, as we have no physical or chemical means of determining their existence. The only organic poison that we can prove to become mixed with the blood, and to pass out of it again—the amanita muscaria—affords very strong evidence of the truth of this law. The following quotation from Dr. Pereira's Materia Medica first edit., Vol. I., p. 15, supports this, "A man for example, may have intoxicated himself to-day by eating some of the fungus; by the next morning he will have slept himself sober; but by drinking teacupful of his urine he will become as powerfull intoxicated as on the preceding day." Can more powerful evidence be afforded of the entrance of the morbid poison into the blood, the circulation of it through the system, the production of its peculiar effects on the brain, the elimination of the poison through the agency of the kidney, and the consequent cessation of its specific action.

In opposition to this view of the subject, it may be objected that the specific effects of lead, or of arsenic, will frequently continue for weeks, or perhaps for months, after the poison was taken into the system, and that we have no right to assume that this action was caused by the actual presence of the poison. It has, however, been shown, that arsenic may continue to be excreted from the body for as long a period as five weeks after the dose was taken; and I knew of a person who excreted lead by his skin for more than three months after he had ceased to be exposed to the influence of the poison. Most, if not all of the specific effects of a morbid poison may apparently cease before the whole of the poison is eliminated from the system. Thus a person may infect another with the exanthematous disease from which he has suffered, after all the ordinary specific effects of the poison have ceased that is to say, after the eruptive, and sometimes even after the desquamative stage has passed by.

Dr. Williams further states, "that the general laws observable in the actions of morbid poisons are for the most part precisely similar to those which govern medicinal substances, or only differ in a few minor points. These poisons have their specific actions, their periods of latency, while their phenomena equally vary according to the dose, or the predisposition of the patient." That the poisons are specific is proved by the precision of their course, and of the pathological phenomena which each individually exhibit. Morbid poisons, also, have their periods of latency, the duration of the period varying in the different diseases induced by them. Thus, the poison of scarlet fever ordinarily lies latent from a few hours to ten days; of measles from ten to fourteen days; and of small-pox from sixteen to twenty days.

The chief distinctions between the morbid and the mineral poisons consist, first, in the power which the former have of increasing within the system to a comparatively indefinite extent; and, secondly, in their specific effects being independent of the amount of the virus absorbed, a small dose producing as certain and as severe effects as a large one. Many of them, also, are capable of infecting persons at considerable distances, and of exhausting the susceptibility of the membrane diseased to any future attack. These peculiarities are possessed by the virus of scarlet fever, and will, therefore, be briefly considered.

The theory of the increase of the virus of a morbid poison within the system was propounded by the ancient physicians; for instance, Hippocrates attributed the phenomena of fever to a morbid matter in the blood, which being *concocted* for some days, was rendered fit for expulsion from the body. This theory has been revived, and more philosophically explained by Liebig, who ascribes the peculiarities of this class of diseases to the fermentation of the morbid poison in the blood. Liebig's doctrine of fermentation is that ferment, or yeast, is nothing but vegetable fibrine, albumen, or casein, in a state of decomposition, with their particles in a state of intestine motion. This motion being communicated to the particles of the vegetable, or of the animal matters with which the ferment is in contact, will, other circumstances being favourable, communicate the same kind of intestine movement to them, and thus split up their particles into new and less complex compounds. The gluten, or other azotised matters in the fluid act, therefore, the part of fresh ferment. Liebig elsewhere states, that animal fibrine, albumen, or casein may act as a ferment as well as vegetable. The poison of scarlatina having passed into the blood in perhaps an almost unappreciable quantity, multiplies itself within the body in a manner analogous to a ferment, until the whole of the pabulum in the blood that enables it thus to multiply itself, is consumed. Should there be no pabulum in the blood, no reproduction of the poison could ensue, nor could any of the ordinary effects of scarlatina occur, unless the quantity of the virus absorbed was sufficiently great to attack any membrane that had not been previously affected, or in which the change previously made had been effaced by the tendency existing in all altered diseased tissues to revert to their normal state. The non-susceptibility of the patient to the subsequent action of the virus, is ordinarily attributed to this modification of the blood; but for reasons, to be hereafter stated, I do not consider this to be the sole cause of it. The second distinction between the mineral and vegetable and the morbid poisons, namely, that the effects of the latter do not depend to any great extent on the dose of the poison, follows as a necessary result of the preceding law; for, if the amount of the virus circulating in the blood is ordinarily in proportion to the quantity of matter in the blood fit for its reproduction, it follows necessarily that the resulting disease will depend, not so much on the dose of the poison, as on the amount of pabulum then existing in the blood for its increase.

Scarlet fever may, perhaps, be considered the most infectious of all the exanthemata, as it is contagious both by individuals and by fomites, and it is also infectious. The poison has been known to extend itself to a distance of above two hundred yards. This part of our subject has been discussed already, and may, therefore, be dismissed without further comment.

The great peculiarity of the exanthematous diseases of hooping-cough, and to a less extent of typhus, consists in the immunity that one attack affords against another to a part that has once been affected; and it becomes a matter for consideration to determine, if possible, the cause of this immunity, to ascertain the alterations in the organism affording it. Does it arise from a peculiar and definite alteration in the blood, or in the tissues, or in both? My own opinion, in opposition to that ordinarily entertained on the subject, is in favour of an alteration both in the blood and in the tissues.

It has already been shown, that the poison of the disease must increase within the system, and that this increase must depend on some peculiar action of the poison on the blood, most probably by a process analogous to that of fermentation, as described by Liebig.

This alteration having once been effected in the blood, ordinarily remains permanent; but, in some few instances, it becomes effaced, when the blood would admit of a similar change, if the individual again received any of the morbid poison. But it seems probable, that the blood might become charged with the morbid poison, by the absorption of a quantity at a time when the atmosphere was greatly loaded with it, as during the progress of an epidemic. Under these circumstances, it is most probable, that any membrane that had previously escaped might be attacked with the disease.

[To be continued.]

PRACTICAL OBSERVATIONS ON THE TREATMENT OF INSANITY.

By WILLIAM SMITH, M.R.C.S.L.
Formerly Resident Surgeon in the Lincoln Lunatic Asylum, and subsequently in the General Hospital at Lincoln.

In the first Number of the *Psychological Journal*, edited by Dr. Forbes Winslow, is a paper "On the Sedative Treatment of Insanity." Without wishing to detract in the slightest degree from the merits of Dr. Seymour, as an enlightened and skilful physician, or call in question his knowledge of mental pathology, I cannot help expressing an opinion, (founded on more than nine years' practical observation amongst insane persons,) that the so-called sedative system of treating the insane is not entitled to the high encomiums which Dr. Seymour and others have claimed for it.

During my official connexion with the Lincoln Asylum I had ample opportunities of testing the merits or demerits of the sedative plan; but more particularly so from the fact, that the late Dr. W. D. Cookson, (at that time one of the physicians,) at one period of his life warmly advocated their employment; and here, *in limine*, I would remark, that the exhibition of narcotics or sedatives, and the employment of mechanical restraint or seclusion, for the purpose, as some think, of subduing maniacal excitement or removing irritation, are much more intimately connected than many persons superficially acquainted with insanity would suppose. Now, believing (as all my experience goes to prove) that insanity is essentially a disease of accumulated excitability, a superfluity or excess of the *vis nervosa*, (call it by any name you please,) I cannot for the life of me conceive upon what physiological or philosophical principles those persons act who prescribe narcotics or sedatives, or employ mechanical restraint or seclusion, for the purpose of getting rid of this same pent-up, morbid irritability. If I might be allowed the use of a homely simile, I would compare an excited and furious lunatic to a monster railway engine, snorting and fuming at the railway-station just prior to its being despatched with a heavy luggage-train; what the safety-valve and the puffs of smoke are to the railway-monster, the restless mobility, great muscular activity, and the noisy vociferations are to the lunatic. The latter must get rid of his extra steam by some vent, and nature (if we will only use our eyes and ears) gives us very plain indication. If my theory be correct, what becomes of the principles of those who (at the very onset) administer narcotics and sedatives, tartar emetic, &c., &c., or tie down an excited lunatic in a crib, bedstead, or a filthy restraint-chair. We have had a fair stand-up fight with the advocates of mechanical restraint; and, though our numbers have been few, like the Spartans at Thermopylæ, we have achieved a glorious victory; the narcotic and sedative plan is merely an old enemy under a new guise; the principle is unsound, therefore inevitable defeat awaits it. I wish not, however, to be understood as proscribing the use of narcotics and sedatives altogether. I do not assert that they are "never necessary, never justifiable, and always injurious, in all cases of lunacy whatever." In puerperal mania, in mania arising from, or complicated with, intemperance, in cases where there may be great irritability of the nervous system, with feeble pulse, and great prostration of the vital powers, opium, or its preparations (as, under similar circumstances, the idea of lunacy apart,) would be our sheet anchor. Let every individual case of insanity be treated on its own merits. The great principles which guide us in the selection of remedies for diseases affecting other parts of the human frame are equally applicable here. I repudiate entirely (as most empirical) the idea of there being any specifics for insanity; in truth, there are none such. On being called to a case of mental alienation, our duty is carefully to inquire into the condition of the various important organs, the stomach, the uterus, liver, &c., and the state of the secretions; and should there appear no clear indications for medical treatment, it is much more prudent, as well as more philosophical, to do nothing more than to order medicaments, without any definite object, which I hold to be striking a blow in the dark. This doctrine may not suit everybody. Young practitioners, on first being launched on to the troubled waters of medical practice, place wondrous faith in the efficacy of *medicamenta*. But ten or fifteen years' extensive observation of disease, dispels the illusion. What I conceive to be points of great beauty in Lincoln management, have been

furiously attacked by the Lunacy Commissioners. However, *de gustibus non est disputandum*, there is no disputing against "hobby horses," as Yorick has it. I am quite ready to admit, that, under the old *régime* of mad-houses, medical treatment was most scandalously neglected; but, judging from the "Further Report of the Commissioners in Lunacy to the Lord Chancellor, 1847," and the prolix "Essays on Mental Pathology," furnished by certain youthful aspirants for fame, we appear to be in danger of running foul on the opposite tack; and if all the medicaments mentioned in that "Report" have been really administered, (I say) may the Lord protect the "*ilia dura*" *lunaticorum*.

As a slight specimen of the truly practical and untheoretical character of some of these juvenile specimens of mental pathology, I take leave to quote from the aforesaid "Further Report," page 462:—"In melancholia and other forms of partial mania, it is probably that some portion only (and that circumscribed) of the cortical matter is diseased, and, from its undue irritability, not only distorts the impressions conveyed," &c. Now, what does this *ingenuus puer* mean by partial mania, and what probability is there that a piece of the cortical matter keeps up a piece of mania, and that the impressions on other parts are but feebly noticed? If this be not most unmitigated twaddle, what in the name of common-sense is it? However, this said learned Theban has (by his most erudite theories) got himself smuggled into a snug appointment in the Lincolnshire County Lunatic Asylum, now in course of erection, and that, too, without going through the ridiculous farce of a public competition for a public appointment! If the Commissioners of Lunacy are to exercise an influence in appointing future Superintendents of Public Lunatic Asylums, in the same manner as has been done in Lincolnshire, I know not what results may ensue. *Dii avertite omen.*

But to return to the subject of sedatives. My esteemed friend, F. D. Walsh, Esq., the Resident Surgeon of the Lincoln Asylum, in a most interesting letter, developing his views of insanity, remarks:—"If a patient is in such a state that he would run his head against a wall, seclusion would do him harm. I have found it the best practise in these cases to give them as much air and exercise as possible, keeping an attendant or two with them to keep them from injury. I never mind their dancing about, or their grotesque actions, for they will sleep better after these actions than after any opiate. The attendants are so aware of this, that when a man is restless in this Asylum, or sleepless and noisy at night, they are anxious to get him out (as they say) to let him run it off. I had one case secluded by Dr. Nicholson, under the pretence of putting him under medical treatment. He gave him, in less than twenty four hours, above two ounces of Battley's sedative solution without any other effect than increased excitement, till at length the case became what is called dancing mania; he began dancing and knocking his fists or his legs against the wall. (I was asked a few days before, by a German Physician, "Where would my non-restraint be in a case of dancing mania?" You shall see.) I ordered this man to be taken into an open gallery, and the violin to be played to him, and let him dance till he was tired; I then told him he had not had dancing enough, he had better have a race; I then took him into the grounds and raced with him; he then had his supper, and went to bed: he slept through the whole night—the first sleep he had during a fortnight. He had no mania the next morning, and got well from that day: has been discharged as recovered; and is now succeeding very well in his business. I think this case is remarkable, as showing the evils of seclusion in cases of mania; and from the benefits I have seen derived in this and similar cases by means of exercise, I feel convinced that the propensity for muscular exercise should be encouraged as one of the means established by nature for a recovery; more particularly, as I had a female in the house at the same time who was a similar case of mania, she was also put upon opium without effect; but the doctor, tiring of this, put her upon hyoscyamus, antimony, and finished with digitalis. She became emaciated under this treatment (well she might!) and though now she has recovered flesh, she has not recovered her intellect; she has been here two years, and appears an incurable case; I think she will never get well.

Dr. Charlesworth, the senior Physician of the Lincoln Asylum, whose whole life may almost be said to have been spent in the wards, or the Board-room of that Establishment, so deep an interest has he taken in its management, has no faith in narcotics or sedatives; and Dr. Elmhirst, who acted as Physician there for, I think, about fifteen years, does not advocate their employment. The only Physicians at Lincoln who have used them to any extent were the late Dr. W. D. Cookson, and Dr. Nicholson, who was for a short period Junior Physician to the Asylum; but, in both instances, the practice was signally unsuccessful, and the failures are fully recorded in the official books of the establishment; in fact, Mr. Walsh, the present Surgeon, from seeing the untoward results of Dr. Nicholson's practice, is more opposed to sedatives than myself.

Dr. George Burrows, whose "Commentaries on Insanity" I have read with much pleasure, speaks very guardedly as to the efficacy of narcotics. He says, p. 610:—"Of all the remedies prescribed for insanity, except blood-letting, there is none on which there is such a diversity of opinion as on the efficacy of narcotics. Ounsalon and Morgagni condemned narcotics as injurious to the insane. Regimen, labour, and exercise, some say, are the only remedies for sleeplessness. Many proscribe narcotics altogether, others recommend them in small, and others, again, in astounding doses. Their effects are as variously described. These contradictions, I apprehend, arise chiefly from ignorance of the distinct stages which insanity assumes, or from not noting the exact state of the patient when the narcotic was given. Maniacs will generally bear large quantities of opium and other sedatives better than they will support remedies which weaken the vital powers. But opium, when the excitation is great, in a full and strong habit, aggravates; when the excitation is moderated by previous depletion, or the habit is reduced by long-continued mania, stimulants like opium, wine, porter, &c., tranquillize and prove soporifics. If, therefore, an opiate be given in the early stage of an attack of mania, before the bloodvessels and *primæ viæ* are unloaded, it may force sleep by increasing sanguineous congestion, and compressing the brain; but it will certainly excite and aggravate all the symptoms. In fact, the system must be emptied, and somewhat lowered, before opiates should be administered."

The late Sir W. C. Ellis, in his "Treatise on Insanity," p. 172, observes:—"To allay irritation is, evidently, the great desideratum; but, as it is well known that there are peculiar idiosyncrasies in almost every constitution, so it will be evident that the means must be varied as we find them to exist. The same medicine which will allay it in one, will not in another, but, on the contrary, increase it. This is particularly the case with opium, which is rarely found admissible in insanity. It more frequently creates heat, and general febrile action, than procures sleep. In the first stages of the disease we ought, if possible, to avoid the use of narcotic medicines; and endeavour to procure sleep by allaying irritation, in the method above pointed out. I wish particularly to press this, because much has been said by some authors on the necessity of procuring sleep by any means, and of keeping up the strength of the constitution with hearty suppers, porter, and other stimulants."

Haslam, in his "Observations on Madness and Melancholy," remarks, pp. 339, 340:—"Respecting opium, it may be observed, that whenever it has been exhibited during a violent paroxysm, it has hardly ever procured sleep; but, on the contrary, has rendered those who have taken it much more furious. And where it has for a short time produced rest, the patient has, after its operation, awaked in a state of increased violence. Many of the tribe of narcotic poisons have been recommended for the cure of madness; but my own experience of those remedies is very limited, nor is it my intention to make further trials."

But, to come to a more recent authority, Dr. Conolly, the enlightened and humane physician of the Hanwell Asylum, (whose extensive experience in insanity must equal that of any physician of the present day,) does not appear to entertain any very exalted notions of the efficacy of sedatives. In the "Further Report," before named, p. 444, he thus tersely describes the practise pursued at Hanwell:—"A kind and soothing reception, immediate removal of restraints, a warm bath, clean clothing, comfortable food, encouraging words, a medical treatment first directed to any manifest bodily disease which may occasion the cerebral disturbance, as of the uterus, stomach, &c., or the general loss of strength; and if such disease or debility is not manifest, attempts to allay the irritation of the brain more directly, by leeches occasionally applied to the head; gentle aperients, moderate doses of tartarised antimony, sometimes combined with sedatives; cold applications to the head, blisters behind the neck, shaving the head, and friction of the scalp, with the tartarised antimony, the warm-bath, or in violent cases, a cold shower bath efficiently applied. Tranquillity, occasional exercise in the open air; exercise and occupation in chronic cases, cleanliness, order, good diet, attention to relieve heat and thirst, particularly in the night; a careful avoidance of everything that can irritate the brain, including the avoidance of the strait-waistcoat, &c., &c. Antimony and all sedatives are of uncertain effect, and sometimes of none; *time* seeming alone to effect a cure, provided proper and constant care be taken of the patient."

The subject of narcotics and sedatives, (like every other important matter bearing upon the improved treatment of the insane,) has been repeatedly discussed in the valuable printed Reports of the Lincoln Asylum. On reference to the Nineteenth Report, p. 5, I find the following General Board order.—"That the practice of shaving the heads of lunatics, blood letting, the cold bath, baths above blood heat, the process of subduing violence by the use of tartarised antimony, or of narcotics; the practice of enforcing sleep by opiates and courses of drastic medicines are hereby interdicted, except in special cases, otherwise medically requiring the same."

This same disuse of sedatives or narcotics formed one item in the memorable controversy between the Lincoln Governors and two of Her Majesty's learned Commissioners in Lunacy; the former gentlemen, in their reply to the Commissioners, remark:—"When a person, not habituated to the treatment of lunacy, sees a restless patient, he naturally follows the first popular impulse of administering a narcotic; and it is obvious, that if the narcotic answered the end, such an easy remedy must long ago have been the settled recognised practice in such cases. The very contrary is the fact. It is settled, that narcotics must be used with the greatest caution; and it is curious, that in the case of M. B., referred to by the Commissioners, and affording them, as they suppose, grounds for complaint, that, 'no means were used for procuring sleep.' Under this alleged neglect, this same patient has rapidly and perfectly recovered, and is now discharged within two months of the date of her admission."

In the Twenty-third Annual Report of the Lincoln Asylum, pages 4 and 5, I find the following:—"'Resolved, that the junior physician, having declared his determination to disobey the rules and laws of the establishment, and so to place the house-surgeon and other officers in the position of active parties to a disobedience of the rules and orders of the house, it has become necessary to adopt measures for sustaining the authority of the Boards.

"Resolved and ordered, 'that no preparation containing morphine, or narcotine, fox-glove, or strychnine, nor any fermented drink, be employed by the house-surgeon, under any order of the junior physician, without a consultation with, and the approbation of, one at least of the senior physicians; but, that the house-surgeon, on any emer-

gency seeming to require their use, proceed on his own responsibility, under Rule 11, sect. vii."

I feel considerable delicacy in quoting the above extract, showing as it does, the miserable state of disorganisation into which any public medical charity may be precipitated by party squabbles and differences of opinion amongst the members of its Medical staff;—it teaches us (at the same time) a practical lesson, to place the government of public Medical charities in as few hands as possible;—it shows the palpable absurdity and mischievous consequences resulting from a numerous, unpaid, (almost irresponsible,) and non-resident staff of physicians and surgeons; whilst the resident surgeon, who alone can know the intimate and ever-varying condition of the patients, is virtually restricted to the subordinate office of dispenser, and confined to the exhibition of the infallible remedy, (at Lincoln,) salts and senna. May the petty feuds and angry altercations, which, for more than twenty years, have disgraced the Board-room and Medical staff of the Lincoln Asylum, and sullied its otherwise bright laurels, prove a warning beacon to other establishments; and when its present despotic and fast-crumbling form of government, shall sink into a fallen ruin, may it, phœnix-like, rise from its former ashes, and, under a more honourable principled, and purer-minded body of rulers, furnish a bright example to surrounding institutions!

Belper, South Derbyshire, Aug. 18, 1849.

PROGRESS OF MEDICAL SCIENCE.

FRANCE.

[From our own Correspondent.]

We have still the same number of cholera cases daily, or perhaps a slight increase; but, what is more remarkable, is the fact, that the disease attacks and carries off a comparatively great number of persons amongst the middle and upper classes of society. Within the last week, this has been particularly the case. Amongst the victims may be mentioned M. Robert, Member of the Legislative Assembly; M. Mourdhon, Director of the Orleans and Central Railways, who was buried this day; one of our first miniature painters, and many others. The Hospital of Incurables, in the Faubourg St. Martin, which had so long escaped, has recently been attacked; and, although the mortality is far from being excessive amongst the inmates of the Asylum, no less than five of the Medical assistants have already fallen victims. At Bordeaux, a very severe epidemic of dysentery accompanies the cholera; and, although not so fatal, its ravages are greater from the greater number of individuals attacked. Children and infants are the principal sufferers. The mortality from cholera at Bordeaux does not exceed 8 or 9 per day. Here at Paris it still carries off from 35 to 40 persons daily. Our Medical men seem to be more backward than even the English in the way of treatment, and the Academy of Medicine seems chiefly occupied with the examination of quack remedies for the disease, all of which are, of course, pitilessly rejected.

ABOLITION OF QUARANTINE.

The French Government, after many years of hesitation, has at length consented to abandon the absurd and injurious system of quarantine, which nothing but gross ignorance, or rather, perhaps, the self-interestedness of a few individuals, continued to maintain.

Henceforward all sailing vessels from Turkey, Egypt, or Tripoli, with clean bills of health, will be admitted at once into the French ports, if there be no suspicious circumstances to justify a delay.

Steamers, also, will be admitted without quarantine, if eight clear days have elapsed since their departure from any of the above-named countries, and if they carry a medical officer on board. When this latter condition has not been complied with, they will be subject to a quarantine of three days.

These regulations are founded on two main points, which the Government says have been fully established. In the first place, the incubation of the plague never exceeds eight days; and in the second, it has been shown by the French Medical Officers in Egypt, that plague has not appeared in that country since the year 1844. This latter fact is a triumph, as it is a proof of the progress of civilization. It is consoling to think that we can exterminate the disease, though we may not be able to cure it.

INCREASE OF THE FIBRINE OF THE BLOOD BY HEAT.

M. Marchal endeavours to find an explanation of the fact well known to all pathologists, that inflammation increases the quantity of fibrine contained in the blood. Rasori, it is true, attributed the increase to augmentation of the temperature and the increased movement consequent thereon; but, Rasori does not seem to have supported his theory by any experiments. M. Marchal has supplied the latter, which prove, so far as things go, the influence exercised by increased temperature.

Two porcelain cups received the same quantities of blood from the same individual. But one cup was enclosed in water of 60° centigrade; the other surrounded by a frigorific mixture. Coagulation was allowed to take place, and the fibrine from the two specimens weighed. The blood coagulated under the influence of heat always showed a great excess of fibrine, varying from 23 to 37 parts in 1000.

M. Marchal is inclined to think that the increase of fibrine takes place at the expense of the albumen.

ANIMAL MAGNETISM.

In a former letter I noticed some curious experiments made by M. Ducros, on the influence which the proximity of the hand exercises on a magnetic needle, making it deviate from 5 to 20 degrees.

These experiments have been repeated by M. Despretz, who acknowledges the fact of deviation, but asserts, and with apparent truth, that the phenomenon depends on heat, not electricity. In fact, any heated substance produces the same deviation; a bit of wax candle, a hot coal, &c.; sheet of thin polished tin, placed between the hand and the instrument will prevent the influence of the former, because it reflects the rays of heat; but it will not intercept the influence of an electric needle.

On the other hand, M. Pouillet contends, even more peremptorily, that the phenomena alluded to depend on certain currents of air developed under the influence of cold or warm bodies, and manifesting themselves even in the most perfect vacuum that we can produce. M. Pouillet assures us that this conclusion was clearly demonstrated so far back as the year 1829, and was rather severe on M. Despretz at the last meeting of the Institute; but M. Despretz is equally confident in the correctness of his explanation. Chemists, as well as doctors, often disagree.

UMBILICAL HERNIA—SUBCUTANEOUS OPERATION.

At the last meeting of the Institute M. Cardon related a case of this kind, which seems worthy of notice:—

"In October, 1845," says M. Cardon, "I saw a boy, eight years of age, labouring under inguinal hernia. The sac was extremely large, and descended nearly down to the middle of the thigh. As subcutaneous operations were all the fashion at that time, I resolved on applying the system to the case before me. Having opened the sac without any difficulty, I passed up a canula to the neck of the sac, and then made several scratches in the serous membrane at this point: in fact, they might be called incisions. The neck of the sac was now compressed by a bandage, under the idea that the wounded serous surface would inflame and unite. The inflammation which supervened was slight; the little patient, however, was kept in bed for six weeks, and watched with great care, so as never even to sit up. During eighteen months the child continued to wear a bandage; it was then removed, and the hernia has not re-appeared. The sac appears to have been absorbed."

M. Cardon asks, "Is this an operation which we could apply with prudence to congenital hernias, or which might be applicable to adults?" And he answers in the negative,—a judgment with which most surgeons will probably agree.

M. Velpeau, through whom the above case was communicated to the Academy of Sciences, mentioned, that he had once performed a similar operation on an adult. It was not successful; but, on the other had, was not followed by an accident.

FOREIGN BODY IN THE RECTUM.

M. Velpeau likewise related at the last meeting of the Academy of Medicine, a curious case of this kind which had presented itself to him in the morning. A man was admitted into the hospital with a tumour, which projected under the false ribs on the right side. It was easy to trace the form of the tumour through the walls of the abdomen, and the patient confessed that it was produced by a long bottle of *Eau de Cologne*, which he had introduced into the rectum. Although the story appeared so extraordinary, it turned out to be true; for the neck of the bottle was easily felt on passing up the finger; it was then seized, and the whole bottle extracted with facility. It was 28 centimetres in length, and as the foreign body disappeared, so did the tumour of the side; in fact, it was impossible to doubt that the tumour depended on the projection of the bottle. The patient felt no inconvenience after the extraction of the substance; but it seems strange that any inflexible body could penetrate so far, without producing any lesion whatever.

EPIDEMIC CEREBRO-SPINAL MENINGITIS.

This dreadful malady, which prevailed towards the end of 1848 and the commencement of 1849, at Petit-Bourg, is carefully described in a memoir presented some time back by Dr. Ferrus to the Academy of Medicine. Unlike preceding epidemics, this one attacked children.

The symptoms are extremely well-marked and constant. The disease always commenced with a violent rigor, followed by vomiting for some hours, and then intense headache. In all the cases, excessive sensibility of the skin existed along the whole of the spinal column, and particularly at its lower part. All the patients, likewise, presented more or less rigidity of the cervical column, almost amounting to opisthotonos in some cases. (The same stiffness and rigidity are a frequent symptom in the ordinary hydrocephalus of children.) The limbs were often agitated by convulsive movements, and contraction of the extremities existed in all the cases except one.

The state of the pupil was not constant, being sometimes dilated, sometimes contracted, or alternately so. The delirium was more or less violent in all cases except one; but coma was seldom profound, and in two cases it was absent.

The pulse was ordinarily, and during the whole course of the malady, depressed, slightly accelerated, or even slower than natural; seldom above 100, never beyond 104.

Of the seven cases described by Dr. Ferrus, two ended fatally in six days; two in four days; one in a few hours; one favourably, in fifteen days; and one little patient, after having remained four months in a complete state of idiotcy, recovered completely.

Post-mortem examination revealed the existence of lesions, which might easily be deduced from the symptoms. The principal were, inflammatory injection of the meninges, chiefly remarkable; first, along the fissure of Sylvius and on the pons varolii; and, secondly, along the spinal marrow, and particularly at its lower part. In three cases there was abundant suppuration of the sub-arachnoid cellular tissue; and in one of these the pus had followed the sheath of the optic nerve into the interior of the eye-ball. The quantity of pus underneath the arachnoid of the spinal marrow was very considerable. In one case, which terminated fatally, there was nothing more than simple injection of the membranes. The cerebro-spinal substance was healthy.

One case was remarkable from its similarity to typhoid fever. The deep stupor, the dark state of the tongue and teeth, and the delirium might

have led the Medical man into error; but, on the other hand, the throwing back of the head, with stiffness of the neck, contracture of the limbs, and absence of diarrhea, could not deceive him.

The treatment employed was energetic, though unavailing.

An epidemic of the same kind prevailed some years ago amongst the garrison of Strasbourg, and has been well described by Dr. Tourdes. The above notice may afford a means of comparing its symptoms with those of ordinary tubercular meningitis. Rigors and furious delirium are the chief symptoms in which the epidemic differs from the tubercular form. The effusion of pus underneath the arachnoid, and especially over the spinal marrow, is its main pathological lesion.

GERMANY.

STATE OF THE OVARY DURING MENSTRUATION.

Janzer, of Philipsburg, has given, in the "Heidelberg Annalen," No. 13, 1848, an account of the condition of the ovaria in a young woman, who was murdered four days after menstruation had ceased.

On the surface of the left ovary was a dark red spot, rendering the peritoneum vascular in this place, and presenting a minute aperture, with tolerably smooth margins. The spot consisted of a globular, very red mass, which was imbedded in the ovary, and separated from it by a thin yellow covering. The red mass, after washing, consisted of many layers of smooth, broad fibres, which united with each other in an arched form; and the yellow layer included besides some fat not contained in cells. Close to the yellow mass was a mulberry-shaped yellow substance imbedded in the substance of the ovary; it consisted of areolar tissue with a whitish amorphous fat in its meshes.

The right ovary contained two yellow bodies precisely similar to the above.

The Fallopian tubes were swollen at their trumpet shaped extremities, but did not embrace the ovaries. The least pressure upon this part of the tubes forced out a whitish substance of the consistence of pus which consisted altogether of roundish ciliated epithelium; no ovulum could anywhere be found.

The uterus was more vascular than usual. Its mucous membrane and glands seemed also more developed.

The author believes an ovulum to have escaped from the left ovary during menstruation; confirming Bischoff's theory of this process.

DEATH FROM A HUMAN BITE.

A police-sergeant, in the exercise of his duty, was bitten by a drunkard on the first joint of the thumb of the right hand. He had previously enjoyed excellent health. The wound healed in seven or eight days. On the third day after, and at nearly the same period of the day, convulsions came on, beginning at the seat of the injury, as a numbness and stiffness. The convulsions were accompanied with loss of consciousness, being thus essentially epileptic. He was treated by bleeding and purgatives. With varying exacerbations and remissions, mostly of a few days, they recurred, and in about three months the patient died apparently of exhaustion.

The main appearances were of purulent infiltration and softening of both hemispheres above the lateral ventricles. The membranes were thickened and vascular.

At a spot outside the skull, on the upper part of the occipital bone, the soft parts were thickened and infiltrated. The spinal cord was soft, but no clear evidences of disease beyond this. Nothing abnormal of note was found in the nerves of the limb, nor in the rest of the body.—(*Caspar's Wochenschrift*, Mai 5, 1849.)

URIC ACID DIATHESIS.

J. F. H. Albers, of Bonn, (abridged in *Schmidt's Jahrbucher*. Jahrgung. Nov., 1849,) has contributed a paper on the uric diathesis, with separation of uric acid and the disease of fermenting urine. His main conclusion is, that in the fermenting urine the carbonate of ammonia is the result of a vital process, and not of a mere chemical decomposition. In support of this view, he adduces the fact, that in urine which contains pus or fibrine, although all the elements for the formation of carbonate of ammonia are present, (as in inflamed bladder, &c.,) yet, by decomposition without the bladder, this is only formed in very small quantity, the ammoniacal phosphate of magnesia being the chief result. The latter product—at least its phosphate of magnesia, is believed by others to be derived from the fibrine, while the ammonia is as essentially developed by the nitrogen of the decomposing urea and uric acid.

OBLITERATION OF ANEURISMS AND VARICES.

Dr. Giuseppe, secondi of Milan, has proposed a new method of obliterating aneurisms and varices. He thrusts a trocar into the vessel, previously laid bare, if necessary, and on withdrawing the stilet, inserts a cylinder of waxed sponge through the canula into the vessel. The swelling of this and the coagulation of the blood effects the obliteration of the vessel.

The Author states the advantages of the operation to be the ease of its performance, security against secondary hæmorrhage, greater length and duration of the clot, and less secondary inflammation. In the case of veins, the advantage of a puncture over ligature and excision he regards as self-evident.

His experiments on animals are stated to support his conclusions.

But, it may be doubted, whether any of these advantages obtain in reality; and the comparative immunity of animals from secondary inflammation renders it unwise to lay any stress on the results. —*Schmidt's Jahrbucher*, p. 339.

MECHANICAL LEECHES.

These are mostly modifications of a small scarifying apparatus to which a suctorial portion is attached, either as a cupping-glass, or connected with an air-pump.

BAPTISM BEFORE BIRTH.

Dr. Salomon, of Hildesheim, narrates a strange case. The child of a Roman Catholic was half delivered, only the head and arm remaining in the uterus, when the midwife asked and obtained permission to baptize, on account of the danger of its death. Instead of the necessary few drops, she suddenly dashed a handful of cold water on the child's posteriors. It moved violently, excited a strong uterine contraction, and was expelled dead: all endeavours to resuscitation were fruitless. The story forms an argument against baptism by injection, which even Mr. Shandy never anticipated: much less the doctors of the Sorbonne, whom he quotes.

TREATMENT OF GONNORRHŒA.

Eisenmann, Collin of Dresden, and Ficinus of the same place, speak very highly of the results obtained by an opiate wine of colchicum in gonorrhœa. The proportions are vini colchici, three fluid drachms to tinct. opii half a drachm. Some give it in increasing doses; others prescribe twenty drops twice daily. The cure is generally complete from the seventh to the fourteenth day.—*Caspar's Wochenschrift*, No. 35.

SCOTLAND.

[From our Edinburgh Correspondent.]

Cholera still prevails in Edinburgh, though but to a moderate extent. It cannot, however, be doubted any longer that the disease has distinctly re-visited the town and neighbourhood. Accordingly, the arrangements have been re-adopted which were made at the end of last year, for the reception of the patients into Cholera Hospitals, and for the report of the cases that daily occur. During the last several weeks straggling instances have been met with,—most of which were admitted into two wards of the Royal Infirmary appropriated to that purpose, on the understanding, that this arrangement was to be departed from if the attacks rose to any considerable amount; and as, in the week before the last, the cholera admissions exceeded twenty, the managers of the Infirmary wisely resolved to discontinue this accommodation, and to call on the parochial authorities to re-establish their Cholera Hospitals. The Fever Hospital in Surgeons'-square, which has not been required for fever for more than a year, was accordingly opened on the 27th of August, under the care of Dr. William Robertson, and now the admission of cholera cases into the Infirmary is refused. In this respect, we think the managers of the Infirmary have done exactly what prudence enjoined. They exclude cholera from the house, not for want of room,—not even from the fear of communication,—but out of regard to the fears or feelings of the rest of their patients. Cholera is a disease which carries so much terror along with it, that it should not be admitted, in a cholera season, within the walls of an ordinary Hospital. And this rule should be acted on altogether irrespectively of a belief in the infectious nature of cholera. It may be a fact, that those who have least intercourse with cholera patients are least likely to fall into the disease, even though there be no such thing as an infectious poison generated during its progress. This result may be the effect of moral or of physical causes; and, if the fact be as supposed, it is immaterial, in the mean time, whether one or either of these operates to its production. As long as there is a shadow of suspicion, that, by bringing cholera patients into a house, the inmates of that house have their chance diminished of escaping an attack of that disease, it is unwarrantable, nay, it is almost criminal, to introduce them. The matter in debate is not a dogmatical, but a practical question. It is not, how shall we think, but, how shall we act? What course of conduct is surest to exempt us from the risk of doing what may be injurious to our fellow-men? Let no more be supposed, than that, by non-intercourse with the affected, such a degree of firmness of mind is given to the timid as secures them, or some of them, against the disease. Is this nothing? If the life of even one timid person be lost by loose declamation against the belief that the disease may be contracted by intercourse with the sick, how shall a man justify to himself the indulgence in discourse fraught with such consequences? This is a point which we think is too generally misunderstood. It is assumed, that nothing but a poison generated in the living system by morbid action can be the means of spreading a disease among those who have intercourse with cholera patients. Such an assumption implies a second assumption, namely, that the etiology of diseases is already an exhausted subject. No reasonable doubt can be entertained, that hooping cough spreads by communication; yet the evidence of the generation of a communicable poison in that disease is at best problematical. No one doubts, that there is a tribe of spasmodic diseases which extend from one individual to another, and even at once to a multitude. Will any one venture to affirm the impossibility of cholera being propagated, in some instances, in an analogous manner. That many will at once cry out on the absurdity of such a suggestion, we are well aware. We content ourselves with replying, that the laugh raised against this idea proceeds on a presumption of knowledge which does not exist. Let us, then, lay aside dogmatism, and the belief that cholera must necessarily be amenable to principles supposed to be established in regard to other diseases, and act wisely on a practical view of the case. And that practical view, according to our way of thinking, is, that though cholera be not so certainly communicable as small pox, yet that those who mingle with cholera patients are more frequently attacked than those who adopt the rule of non-intercourse. The real question, then, at issue is, not whether cholera be propagated by a poison generated during the disease, but whether the state of the fact be or be not as just stated, namely, that non intercourse is the means of protecting some from the onset of the disease. The only practical answer that can be made to this view of the matter

is, that the fear of receiving the disease by communication will prevent the sick from obtaining proper attention. But this idea is sufficiently obviated by our experience, that, under ordinary circumstances in this country, no such difficulty has arisen. To deny that the disease spreads by communication in the face of facts which daily satisfy the public of the contrary, has no other effect than to force people into an extreme opinion as to its communicability. To prevent exaggeration during an epidemic, the only safe plan is to tell the whole truth. And this applies to the reporting of the numbers daily attacked, as well as to the admission of its limited communicability.

It is a very short-sighted view, to consider the daily reports a means of intimidating the public mind so as to increase the number of victims. We may suppress exact reports, but can we suppress the penny-a-line accounts in the newspapers? Can we prevent timid people from mutually exaggerating each other's fears, by more and more wonderful tales of the ravages of the epidemic, the confident repetition of which at last subdues even the sensible. It is somewhat disgraceful to Edinburgh, as a seat of Medical science, that a majority of our Police Sanitary Committee, composed of Commissioners returned by popular election, should entertain views so narrow as to have resolved to offer their strenuous opposition to the daily reports of cholera cases. Fortunately, their assistance can be dispensed with. They may rest assured, that public rumour will far outrun the truth. At the commencement of cholera in Edinburgh, before confidence was established in the regular reports, all sorts of extravagances prevailed over the town as to the ravages of the disease and the conduct of Medical men, and the like tales have revived of late in the temporary absence of definite information. As a specimen, it was gravely announced in several inferior Edinburgh newspapers, and even got into some of the London journals, that a boy was taken to the Infirmary under cholera, and being supposed to be dead was carried to the dead-house, and left there for many hours till the attendants came to put the body in a coffin, when he was found to be alive. Popular rumour added what he saw in the dead-house during his stay there, namely, that a doctor came round and knocked on the head such of the unfortunates in the same predicament with himself as were foolish enough to show signs of life in his presence. Fortunately, the boy's name was given in the newspapers, so that it became easy, when the attention of the Hospital authorities was drawn to the rumour, to give an explicit contradiction of the whole fabrication. The boy was not even affected with cholera, being merely cold and wet from long exposure to a heavy rain, in a Temperance Society excursion.

Within these few days a rather unpleasant incident has occurred in connexion with a supposed case of cholera. A lady came from London to Edinburgh with the body of her daughter, cut off by some chronic disease, to have it buried in an Edinburgh cemetery. The lady is represented as having been in a feeble state of health on her arrival, and in a very desponding condition. On the evening before her daughter's funeral she was taken ill, and a highly respectable medical man was sent for from a neighbouring street. He appears to have looked on the case as one of a very serious character, and he saw her repeatedly before the next day at two o'clock, and even remained with her a considerable part of the night. At two o'clock he saw her for the last, being then obliged to go to pay a distant visit. After he left her she became much worse, and he was from home when sent for; two other medical men were summoned. When they arrived the patient was expiring, or already dead. They, trusting to the appearances of the dead body, and without waiting the return of the medical man in attendance, at first pronounced the case one of cholera, and one of them went straight and reported it as such at the College of Physicians. The medical man, at first in attendance, did not view the case as one of cholera. There had been constipation for ten days before the lady fell ill; the attack was diarrhœa, with enormous feculent evacuations, and great consequent sinking, from which she rallied under the use of restoratives, showing, according to his observation, none of the proper characteristics of cholera. The new attack, however, after he left her, the following day, speedily carried her off. There is but one point in this case on which it is easy to give an opinion. Whatever reason the last called in medical men had to consider the case as one of cholera, they fell into a breach of medical etiquette in pronouncing on the case, and reporting it as cholera, without first hearing what the medical men, in attendance from the first, had to say in support of his view, as gathered from his assiduous attention up to within an hour and a half of the patient's death. The circumstances of the case are, doubtless, somewhat equivocal. It would be unreasonable to insist on the two medical men who were present at the death giving up their opinion; but they should acknowledge that their example is not to be imitated in a like instance. They were, doubtless, taken by surprise, and did the thing inadvertently, as neither can be, in the least, suspected of the smallest inclination to slight the opinion of a medical brother, or to do anything offensive to his feelings. Fortunately, there can be no doubt that, as regards the treatment, this rapid case met with every justice.

On the 1st of October a new assistant-surgeon is to be appointed to the Royal Infirmary, the vacancy being created by the expiration of Professor Miller's period of duty as acting surgeon. As Professor of Surgery, Mr. Miller will remain an *ex officio* consulting surgeon. At the last election it created some surprise that Dr. Richard Mackenzie, though a very promising young surgeon, should have been appointed in preference to Mr. Goodsir, the well-known Professor of Anatomy. The reason, we believe, privately assigned by the managers for this preference, was that Mr. Goodsir was a new candidate, while Dr. Mackenzie had been a candidate on two previous occasions. This reason is not without force, but we think, the same may prove very embarassing to the Board on future occasions. Thus, how are they to shake off the pretensions of a candidate of doubtful fitness, who chooses to make repeated applications. We think the reason an unsafe one. Dr. Mackenzie would not have had long to wait, and the services of Mr. Goodsir would have been secured to the Infirmary. We trust Mr. Goodsir will accept the explanation given on the part of the management, though private, and come forward as a candidate on this occasion.

By inadvertence the name of Dr. Harvey, Lecturer on Practice of Medicine, King's College, Aberdeen, was omitted among those of the candidates for the Chair of Medicine in the University of St. Andrew's. Dr. Harvey's present position must give him a high place among the candidates. Some amusement has been created by a jocular announcement that Dr. Sharpey, who is just now in Edinburgh, had come from London to present himself as a candidate among the rest for St. Andrew's.

THE MEDICAL TIMES.

SATURDAY, SEPTEMBER 8, 1849.

It is the peculiarity of childhood, and of those earlier ages of society which represent the infancy of civilization, to behold only the present. Absorbed in the multitude of new objects presented to its sight, the child lives in an atmosphere of varied sensations, a life of impressions. Engaged in an hourly strife with nature, the existence of the savage is little more than one continuous action—a struggle for present subsistence. It would be well if this state of mind, which in these two instances seems scarcely a misfortune, much less a fault, were limited to them; but, unfortunately, it obtains in others whose views ought to be as far wider, as their actions should be on a larger scale. And, thus, now as heretofore, a large portion of mankind live only for the present moment, and are, in the language of the wise Greek, "αει παιδες"—eternally children.

Hence it becomes continually necessary, in treating of topics which are especially those of the present time, to take care that their history shall be borne in mind, not only in order to our avoidance of former errors, but also with a specific view of forming some conjectures respecting the future, conjectures which, if they cannot altogether guide our practice, may, at least, animate our hopes and increase our exertions.

The sanitary movement is essentially a modern one. Not but that former cities, and more ancient states, have availed themselves of drainage and cleanliness. But though little ought to be said by us in praise of our own times, we are justified in drawing a broad line of distinction between the motives, the acts, and the results of ancient and modern legislation on this head. Grecian taste on the one hand, or Roman luxury on the other, bear but a superficial resemblance to that union of science and philanthropy to which we may affiliate the modern measure. Nor is the offspring less unlike; for the present state of society—the distribution of wealth, and the annihilation of despotic power—both renders the task greater, and the means of executing it less.

But here our comparison ceases. The results are as yet at so great a distance, and the conditions so different, that all analogy fails definitely to point them out, and the constituents of the sanitary future, can be little more than surmised.

One main constituent will be the diminution of infection. Let any man contrast the liability of the affluent and the poor to the ordinary infectious disorders; and he can scarcely fail to perceive, that there is so vast a difference to the disadvantage of the latter class, that some essential to the progress by which disease impregnates the system is in their case greatly modified. It is not too much to assume, that much of this is extraneous to the system; and consists in increased proximity of the individual to the focus of disease, or, what is virtually the same thing, in the higher infective intensity of a stagnant and unchanged atmosphere.

But, another chief element will probably be the diminished susceptibility of the healthier individual to these, in common with the epidemic, disorders. Among the latter, the tremendous scourge which is now devastating this capital may well illustrate this position. In the main, its objects are the poor, the toil-worn, and the destitute; and even in those instances where, as lately, death has singled out loftier victims, and bereaved a Profession of of one of its highest ornaments, and most efficient members, it is not difficult to recognise the toils of large practice as forming a probable element of the attack, and making scientific, like poetical, skill

"Nurse the pinion that impels the steel."

These remarks have assumed a third effect of less important influence, namely, the effect which must follow the placing of the masses in better physiological conditions, and which operating

as a prophylactic of all diseases, may thus be best characterised as an improvement of health generally. And longevity, already increased, may be expected still more to increase, so that the extravagant benefits of the wished-for philosopher's stone may be more than obtained; the selfish eternity of one unsympathising existence being more than compensated by a fulness of years which thousands may hope to attain and share.

It may be thought a strange time to indulge in such anticipations, when an epidemic of unparalleled severity is amongst us, and setting at naught all precautions and treatment. But it is in the midst of despair that hope is most needed, as an incentive to exertion; and, despite the painful aspect of the present, history may teach us how far worse were the pestilences endured by our forefathers. While reflection, even on what we see around us, leaves us not without hope, that a more rational and less accidental purification from our physical sins against Nature may free us from their punishment, and conduct us, by a far easier path, and at a far swifter pace, to a condition as different from ours as ours is from theirs.

NUMERICAL REPORTS OF CHOLERA CASES.

We have frequently dwelt on the want of method manifested by the Members of our Profession in carrying on investigations to ascertain the value of the remedies proposed for the treatment of Cholera.

To lighten the labours of those who have but little time at their disposal, to direct those who are unacquainted with the importance of method in conducting their inquiries, and to let no one individual's experience, however small, be lost, we have drawn up and inserted the accompanying Table.

It will be observed, that the chief object we had in view, while framing this Table, was the practical one, of determining the effects of the remedies proposed for the treatment of the disease. In order to obtain unequivocal results on that head, it is absolutely necessary that some of the symptoms present in the cases treated should be stated: so that the mild cases may be separated from the severe, cavilling be avoided, and the all-important object—the real value of the drugs employed as curative agents—be duly estimated.

Those interested may obtain copies of the Table referred to, free of expense, by application at our Office, 147, Strand, London. We beg none to refrain from returning it to us, even though they have filled in but a single case. The great advantage of a numerical analysis is, that it enables the experience of one man to be added to that of another, not vaguely, but in a definite form.

As we have no desire to appropriate to ourselves the labours of others, we shall print the returns we receive, giving the names of the gentlemen making them, and subsequently, in a separate Table, imbody the results we may obtain.

As a guide to those not experienced in the numerical method of relating cases, and to illustrate the plan proposed, we have ourselves filled up the Table with an account of four cases.

[Specimen.]

Remarks relating to Locality, Sewerage, Ventilation, Excessive Crowding, Exposure to Contagion, Poverty, Intemperance, &c.
...ewerage ...d, ventilation ...ent; wife and tw... children ... same ro... sober.
Sewerage imperfect; room close, and contains four people; no contagion; intemperate.
...ewerage and ventilation good; easy circumstances; temperate; no contagion.
No sewerage; ventilation bad; extreme want; sober; wife died of cholera 2 days previously.

LONDON WATER AND THE CHOLERA.

Dr. Lloyd, in his speech last Thursday week, at the meeting of the South London Medical Society, attributed the occurrence of cholera in some places to the inhabitants drinking water impregnated with decomposing animal matter. This statement, we believe, is perfectly true, as the recent catastrophe at Wandsworth clearly proves. There is no doubt that wholesome diet and pure water are highly conducive to health; and oftentimes the Physician is baffled in his attempts to trace the origin of diseases, or to accomplish their cure, by overlooking some of the things classed by the ancient hygeists under the τα ἒξωθεν προσπιπτοντα.

In this great Metropolis the food we eat, and the water we drink, are grossly sophisticated. The shambles teem with unwholesome meat, which, by the craft of the butcher, is sold to the poor as cheap and wholesome food. The grocer finds it to his profit to vend for "genuine young Hyson" sloe leaves and raisin stalks; and the milkman aids in the work of destroying the health of the inhabitants of this city by selling for "genuine milk and cream," a vile mixture of sheep's brains, sugar of lead, and chalk. The artisan, moreover, drinks in his "London stout," copperas and cocculus indicus; in his gin, cayenne pepper and oil of vitriol; in his brandy, a fiery malt spirit, disguised with burnt sugar and different essential oils to give it a real cognac flavour; in his water a clarified infusion of decayed vegetables and human excretæ. As the water of London has been more especially charged with producing diseases, it is our intention to notice the manner in which that article is now supplied to the inhabitants of the Metropolis, and the means by which an abundant and pure fluid may be afforded them. This is one of those departments of hygiene deeply interesting to the Medical Profession, and which, well understood, may lead to important results in the controlling of epidemics and the treatment of diseases.

From the earliest times, London has been principally furnished with water from the Thames; a river which, from its magnitude, rapidity of current, and natural purity, was well adapted for all domestic uses. The conduits at Tyburn, constructed by the Corporation in the reign of Henry III., and maintained by a tax on foreign merchants, first supplied the City. Subsequently, other works were erected on different parts of the river, and Sir Hugh Middleton conceived and executed the project of conveying the waters of the Amwell and Chadwell, in Hertfordshire, to London, to meet the wants of an increasing population. Pumps, also, have been erected from time to time for this purpose; but still the grand supply is drawn from the Thames. In the early periods of metropolitan history the river water was well adapted for the use of the people, but, now that 150 common sewers are constantly discharging the excretæ of more than 2,000,000 of human beings into it, common sense teaches us that it is unfit for domestic purposes. Civilization has been very uncivil to Father Thames, for it has changed its once limpid current into a turbid stream, which, being agitated constantly by the paddle-wheels of numerous steam vessels, sends forth the most disgusting and dangerous exhalations.

The Companies which supply this water to the inhabitants of London use means to send it into the houses as clear as possible. Mere percolation, however, while it may remove insoluble substances, can never free the water from impurities held in solution.' Dr. Paris, we believe, stated on one occasion, before a Select Committee of the House of Commons, that the water, as supplied by the Companies, was exceedingly foul, that it was injurious to health, and that he had visited a family whose illness arose from drinking it. But even allowing for a moment that the impurities held in solution are small in amount, we do not see why people should be obliged continually to swallow homœopathic doses of filth; and if Hannemann's doctrines be true, then the most serious consequences will follow the use of such a contaminated fluid as that of the Thames. Further, it has been shown, that as water becomes increasingly impregnated with animal matter, so it possesses in a higher degree the power of dissolving the salts of lead. As the inhabitants of London, therefore, multiply, so will the danger to their health be increased. We caution our Professional brethren on this point; for, while the Thames water may not now exert an influence on the leaden pipes through which it is conveyed for domestic use, it may speedily do so, and thus produce as serious results as the poisoned water at Claremont House.

The wells from which the metropolitan pumps are supplied are found to contain much impure matter: hence resulted the catastrophe at Wandsworth; and this is not a solitary instance. It is rather curious that many of the public pumps are situated in close approximation to grave-yards. St. Bride's is under the burying-ground, and though the spring is celebrated for its sparkling clearness, it is not free from certain impurities.

Water, sophisticated as it is, and therefore productive oftentimes of disease, is supplied to the inhabitants at high prices and in limited quantities. Various measures have, in consequence, been proposed to remedy these evils. One man would have an immense tunnel running parallel to the Thames without communicating with it, to carry away all the sewage water, and thus restore the river to its original purity. Another would sink large tanks in the ground, to receive the excretæ; while a third proposes to dig Artesian wells in different parts of the town. This last project, while it does not interfere with a proper system of sewerage, has other important advantages. It would afford an abundant and pure supply of water, while it would break up the monopoly which several Companies at present possess.

The chalk basin, upon which London is built, is so shaped as to contain the superficial and tertiary deposits. These are composed of vegetable soils, gravel beds, clay and sand-beds of different kinds, which are succeeded by the great body of plastic, or London clay, cropping out to the surface, and which entirely separates all communication between the land-springs contained in these deposits and the chalk-springs below. Beneath the chalk formation is a large body of weald clay. It is stated, that from 1000 to 2000 square miles of the chalk formation crops out to the surface immediately around London. It is from this exposed surface that the water is derived, which is said to equal, upon every square mile, 3,208,228 hogsheads; or in 1000 square miles, 3,208,228,000 hogsheads; which would daily afford 27¼ gallons to every individual in a population of 2,000,000. Into this chalk formation, containing such an immense quantity of water, it is proposed to sink Artesian wells. The works in Orange-street derive their supplies from that source, and from experiments it has been proved, that 100 gallons per minute abstracted from the wells lowered the water, on an average, only 13 feet, at which level the spring constantly supplies that quantity. It is calculated, that a hundred wells of a given depth, would adequately supply all the inhabitants of London.

We hope that the time is not distant when some efficient means will be adopted to furnish the Metropolis with pure water, for it is remarkable, that those localities which have been most severely visited with Cholera are supplied from the Thames. If the present system is continued, sanitary reform will be incomplete.

MEDICAL REMUNERATION.

The manner in which the poor are cared for in this country may, in some degree, be estimated by the fact, that the Guardians of the City of London Union have just erected a house at Bow for their pauper population, capable of containing 1000 inmates, at the cost of 60,000*l*. This house is replete with every convenience; and contains beside, a ward called Probationary ward, into which every proposed inmate must first pass, be, as it may be termed, "purified;" and, before entering into the permanent establishment, undergo an examination by the Medical man; whose duties, our readers will observe, thus early commence. Next we remark, and this we do with much pleasure, that this building also contains a well fitted-up Dispensary, and a Fever Hospital and an Infirmary, calculated to admit 250 patients.

All honour to these Guardians for their arrangements and their munificence! The existence of such an establishment for the poor and the needy, who are "not always to be forgotten," is honourable to us as a people; but we are sorry we cannot stop here, and console ourselves with this pleasing reflection;—there remains yet another point, upon which we cannot award praise. For, after all this outlay, and these judicious preparations, comes the concluding and crowning act—the nomination and remuneration of the Medical Officer, upon whom the usefulness or uselessness of this liberal disbursement must entirely depend. There is a homely proverb, "spoiling the ship for a ha'porth of tar," which fitly illustrates the course we hear it is intended in the next step to pursue;—the gentleman whose duty it is to examine probationers, to prescribe and dispense for the sick, arising from 1000 paupers—who, be it remembered, must furnish a large proportion, from their age, poverty, and condition—deemed, as evinced by the preparations of the Guardians, liable to amount to one-fourth, or 250 patients—to insure a due performance of these duties, will our readers believe, it is proposed that this gentleman, a non-resident Practitioner, shall receive 150*l*. a year! We need not add another word on the subject; we appeal to the proverb.

IRISH MEDICAL CHARITIES.

The condition of the Medical Charities in Ireland, is a subject of real importance to the Profession in England and Scotland. The system of appointment in England and Ireland is essentially the same; the evils under which the Profession groans are alike in the two countries; and there is no knowing how soon this system and these evils may be extended to Scotland. It must be interesting, therefore, to the Profession in England, to sympathise with its brotherhood in a neighbouring land, going through that bitter ordeal, from whence it has not itself completely emerged as yet; and it may be profitable to the Medical men of Scotland to observe the difficulties they will have to encounter should the Poor-law system ever be introduced into their ancient kingdom. But, above all, is it important to watch the progress of Medical affairs in Ireland, because, as we will show further on, the degradation and injury which the Poor-law system is, admittedly, inflicting upon the Profession, are not necessary adjuncts to that system; but that they are, on the contrary, the results of an arranged and central policy, which has been brought to bear with iron sternness on the fortunes of our Profession. We make this statement deliberately and advisedly; and we feel persuaded, that the more our readers reflect on the changes which have taken place in the condition of Medical Men during the last twenty years, the more they will become convinced, that there is such an inimical and secret policy at work. In this country it has been so long in operation, and its springs are so well covered, that Medical men are apt to ascribe the stinginess and contumely with which they are too frequently treated, to the faults of Poor-law Guardians, or of Medical men themselves. No doubt much is to be attributed to the ill-judged economy of Boards of Guardians, and the dishonourable rivalry of the unprincipled; but the history of the Poor-law in Ireland teaches us, that there is a deep and constant, although silent, current flowing, which carries along this economy and rivalry as the ostensible things upon its surface, but which is the result of a design; that, however apparently plausible in its objects, is not the less most obnoxious to the best interests of the Profession to which we belong.

Before the passing of the Irish Poor-law Act, the relief of the sick poor was effected principally by means of county infirmaries, fever hospitals, and district dispensaries. The funds for the support of these Institutions were procured, partly by subscription, and partly by grants from the county cess. As soon as the Poor-law Act came into operation, it was manifest to every reflecting person, that the old mode of Medical relief could not continue for many years. According as compulsory rates for the support of the destitute became frequent and burdensome, voluntary subscriptions to Medical Charities diminished in number and amount; and, at length, it became evident,

that if Medical relief should be continued to the sick-poor, the Institutions for the purpose must be supported by compulsory taxation. To meet this difficulty, the Legislature has gradually, by a series of measures, been engaged in drawing, over all the Medical Institutions of the country, the net of the Poor-law system; and it now appears inevitable, but that in a few years, all Medical relief will, in Ireland, be doled out at the hands of Poor law officials.

Now, we must regret, that this confusion of Medical charity and support of the destitute should have taken place. Every existing barrier between laborious poverty and helpless pauperism ought, we conceive, to be sedulously maintained. From whatever cause it may arise, the working classes do not at present consider it, in general, a degradation to accept relief in a hospital; and it is well that they have this feeling. Many an industrious artisan is prevented from sinking into hopeless poverty, by availing, for himself or for some member of his family, the temporary assistance afforded by a charitable Hospital or Dispensary. We do not deny, but that if the removeable causes of disease were met by appropriate sanitary legislation, that a much less amount of charitable assistance would be required, from the diminution of sickness amongst the poor; but, as long as epidemics and scrofulous diseases are fostered by defective arrangements in our cities, so long will Hospitals and Dispensaries be required to stem the tide of pauperism.

The Fever Act of 1846-47, placed the appointment of Medical Officers, and the determination of their salaries, in the hands of the Irish Central Board of Health. To be sure, the remuneration of Professional services was stated, in the Act, to be at the disposal of the Lords of the Treasury; but it was all along obvious that the Board of Health were the real actors in the scene. It must be in the recollection of our readers, the result of this arrangement. The Irish Board of Health published a tariff signifying its estimate of the value of Professional labour. It offered a reward of "five shillings per day," to use its own elegant phraseology, for attendance, by a resident Physician or Surgeon, on a Hospital or Dispensary; and one guinea a day to a non-resident sent to any particular district for similar services; the payment, in either case, to continue for the number of days that the Medical attendant was engaged in actual duty. Twelve hundred Irish Practitioners memorialised the Lord-Lieutenant against the indignity of this tariff. They were coldly repulsed. Intimidation was proffered towards some of the first men in the Irish metropolis, if they should offer the slightest obstruction to the successful prostration of their Profession, and promises of ulterior advantages were held out to those who, by their example, would assist the authorities in this grand effort, to cheapen Irish doctors. The Medical Periodicals of the time teemed with relations of these facts; and Dr. Graves, of Dublin, has placed on permanent record the chicanery which was had recourse to, for carrying out the views of the Board of Health. But, can we suppose, that the Board of Health, composed as it was of Medical Men, some of them of eminent station, would have subjected themselves to the disaffection of their professional brethren and would have run the gauntlet of general odium, without some particular reason. There cannot be a doubt, but that in the whole of their proceedings on that occasion, they acted according to the expressed wishes of those who appointed them. We can imagine those in authority intimating a desire that medical attendance should be obtained for the poor at the very cheapest rate. We can imagine courtiership prevailing over professional *esprit* and in this way only can we explain, and even so scarcely palliate, the conduct of the Irish Board of Health. From all this, however, we get an instructive lesson, which teaches us that statesmen are not our friends; that, on the contrary, their policy leads them to depreciate medical services; and, moreover, we are hereby taught, that whatever injustice or injury may be conceived against us, fitting agents will be found to perform, even amongst those whose position and relations ought to bind most intimately with our interests.

The process of lowering the Profession in Ireland, having been once commenced by the Board of Health, it was apparently thought that other agencies might be advantageously employed for completing the work. Therefore the Fever and Epidemic Act of this year bestows the power of appointing, and fixing the salaries of medical attendants on the Boards of Guardians. We have already stated our belief, that the degradation and injury inflicted on the Medical Profession, under the Poor-law system, is not necessarily inherent in that system. The Dublin Boards of guardians had originally some respect for medical services. They fixed the salaries of their first physicians and surgeons at 100*l.* per annum each; and, although, be it remarked, at the command of the Poor-law Commissioners, this salary was, at the time, lowered to 80*l.* per annum; it was subsequently, and after a contest between the Guardians and Commissioners, raised to the sum originally contemplated. We are aware of other instances in which Boards of Guardians have acted with equal liberality; so that it seems very likely that, if the Guardians had been left to themselves, they would have awarded adequate compensation for temporary and arduous medical services. They must have known, as men of business, that they ought not to expect Medical men of character or position, to undertake onerous duties for a few weeks, at the same pecuniary rate as if appointed for a permanency. But they were not left to themselves. The Government having got a Board of Health, composed of eminent Medical men, to announce that five shillings per day was sufficient remuneration for a daily attendance of several hours' duration, what were non-professional persons to suppose, but that this sum was a perfectly adequate compensation? We need not speculate on the results, however, for they have already been fulfilled. The Board of Health announced, that five shillings a day was sufficient for some hours of medical attendance; the Guardians have bettered these instructions, for they insist on their officers devoting their whole time, day and night, not in hospitals, but in attendance on the poor in their own dwellings, for the magnificent honorarium of six shillings per diem. But it is necessary that we should place on record the details of this transaction.

Upon the approach of the "prevailing epidemic," as it is gracefully termed in the newspapers, the South Dublin Board of Guardians commenced preparations for diminishing its dreaded virulence. At the suggestion of the Dublin Sanitary Association, hospitals were opened, and Medical men appointed for their superintendence. The general feeling was, that Cholera could not be advantageously treated in the dwellings of the poor, and it was, therefore, contemplated that all cases of the established disease should immediately be accommodated in hospitals. District Inspectors were likewise appointed to examine reported cases at their own homes, so as to ascertain whether they were fit for admission into hospitals; or to prescribe for such as appeared to labour under mere premonitory symptoms, or ordinary diarrhœa. The Hospital Physicians were given a guinea a day, but the duties of the District Inspectors being considered to be comparatively light, a remuneration of two guineas a week was proffered to them. Under these circumstances, eight District-Inspectors were appointed, who performed their duties in a manner highly praiseworthy, and, indeed, went beyond the terms of their contract, often treating patients in their own dwellings under circumstances where they could not be advantageously sent to hospital. By-and-bye, an unlooked-for change took place in the temper of the people; the hospitals began to be regarded with suspicion and alarm; and a marked repugnance was displayed towards entering them. The duties of the inspecting physicians became, on this account, enormously increased; their whole time became occupied in ministering to a class of advanced cases, whose treatment by them was not originally contemplated. Still, as long as they were left to suppose that their services were appreciated, as being rendered voluntarily in the cause of humanity, and not as the mere earnings of their hire, they never grumbled. But they were not permitted to remain in this state of blissful ignorance. There is, too, generally amongst every large body of men, whether it be a senate, a Railway Company, or a Board of Guardians, some thankless busybody, who, to show his own importance, will meddle in that which he does not understand, and probe those feelings to the quick which he cannot appreciate. Some such individual raised the veil before the Medical Inspectors of the South Dublin Union, and told them they deserved no credit for their laborious and most charitable services; that they were well paid for whatever they were doing. The Medical Inspectors were gentlemen; they were naturally indignant at this rude and uncourteous language; and they at once and unanimously stated, that although willing to go on as they had been doing, and give their unbought aid, ungrudgingly, to their fellow-creatures in distress, they owed it to the interests of their professional brethren to repudiate the statement, that they were bound to devote their whole time under the conditions upon which they

were appointed; and they added, that if the Guardians persisted in considering them as acting as their officers, when engaged in the treatment of cases of advanced cholera in private dwellings, they must either remunerate them in proportion, or find others to supply their room. The Guardians, unfortunately, considered this plain and honest language as an infringement on their dignity. The Inspectors resigned; and other Medical Men were appointed in their stead. Now, mark the results: the new Inspectors, have shown themselves willing, not only to bind themselves to attend all who claim their aid at all hours, at a remuneration of six shillings a day, but have not scrupled to grasp at this degrading proffer, knowing that eight gentlemen of their own standing had just spurned it; aye, grasped it in the view of an indignant Profession, and scorning public,—how have they since acted? Has the Board of Guardians reason to congratulate themselves on their new acquisitions The answer is, that the new Inspectors have acted precisely as might be anticipated from the circumstances of their appointments. One of them has been, already, openly dismissed for falsifying returns; another's conduct is at present under investigation on the charge of demanding small fees from the poor. Do these occurrences militate against the character of our Profession? Not in the least. There are as honourable and high-principled men in the Medical Profession as in any other pursuit; but it is not by contumely or parsimony their assistance or confidence is to be obtained. If Boards of Guardians desire high-minded and trustworthy physicians for the service of the poor, they must in the Medical Profession, as in any other calling, come into the market with a free and open hand.

We have traced the declining steps of Medicine, as a Profession, in Ireland. We have done so with the purpose of endeavouring to rouse the Profession throughout Great Britain, and also the general public, to the dangers before them. We have demonstrated, that the authorities have long guided Boards of Guardians in the mistaken path of endeavouring to obtain the cheapest medical assistance for the poor; and that the manifest as well as rational results of this endeavour have been the debasement of professional honour and the cultivation of a mercenary spirit. We have seen the evils that must flow from regarding all the sick poor in the light of paupers; pauperization on the one hand, and demoralization on the other. The interests of the industrious poor, the welfare of the Medical Profession, and the safety and comfort of society at large, are bound together in this argument. It is for the advantage of all, that medical charities should be separated from poor-houses, and that their professional advisers should be treated with liberality and respect.

Accident from Chloroform.—An accident of a very melancholy nature has just occurred in Glasgow. Dr. Adams, Resident Physician to the Clyde-street Hospital, having occasion to use chloroform, inhaled it himself to try its strength, but without any serious consequence; repeating, however, this experiment, and incautiously increasing the dose, the effect was fatal:—he fell back and immediately expired.

THE OPERATIVE SURGERY OF JOHANN FRIEDRICH DIEFFENBACH.

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(Continued from page 186.)

CHAPTER VI.
ARTERIOTOMY.

Arteriotomy signifies the opening of an artery with a lancet for the purpose of letting blood. The operation is usually performed upon the temporal artery; partly because arteriotomy is most frequently resorted to in inflammatory affections of the head, and partly because the bleeding can be readily stanched by pressure against the bone. There are three different modes of operating; in the first, the artery and superimposed integument are completely cut across with the lancet; in the second, the artery being fixed as the vein in bloodletting, is punctured longitudinally; in the third, the artery is exposed by an incision through the skin, dissected from the adjunct parts, encircled with a thread, and then opened longwise.

1. The first method is the least complex. The hair having been previously shaven, the patient is seated with the head leaning to the opposite side, against the breast of an assistant. The incision is made half an inch across, and both the skin and artery divided slantwise, the left thumb and fore finger being placed firmly to secure adequate tension, or else a fold of skin is taken up in the track of the artery, cut through transversely, and the artery severed by itself. The bleeding is copious only when the main trunk of the temporal is divided, because the branches contract forcibly. If the artery can be reached, a ligature may be applied, or the incision united with a couple of insect needles, subsequently wound with cotton thread and then cut short. Thus any risk of after-bleeding is prevented, and which might occur were merely a compress and bandage employed.

2. The longitudinal opening of the artery with a lancet, as in venesection, is a plan very uncertain, nd not to be advocated.

3. The exposure of the anterior temporal artery, as it ascends between the meatus auditorius and the articulation of the maxilla, after emerging from the parotid gland, is accomplished by means of an incision half an inch long. The adherent cellular texture is to be laid hold of with forceps, and carefully dissected from the artery. A thin, waxed silken thread is now conducted round the artery by the aid of a fine curved needle at the lower angle of the wound, and a second at the upper angle of the wound, and the vessel opened in the intervening space with a bistoury or lancet in the direction of from below upwards, or somewhat slantwise. The requisite amount of blood having been received in a shallow vessel, the ligatures are to be drawn and tied with knots, beginning with the lowermost; whereupon one end of the thread is to be snipped off, and the wound closed with adhesive strips.

After bleeding can take place only when the artery has not been secured with ligature, and this may be resorted to as a supplementary means. An insect-needle with twisted suture is, however, often more efficient than the supplemental ligature, hich is attended with difficulty when the artery has been divided; it is, on the other hand, of easy execution when the latter has been opened with a simple incision, and is capable of being encircled with a needle and thread.

The part is generally healed in the course of a few days; but, should suppuration follow, weeks may elapse before there is perfect adhesion. The loosened ligature is to be withdrawn with the forceps.

After the wound is united a false aneurism may form; that is, an effusion of blood from the still open artery into the cellular texture. This appears either as an elevated or as a diffuse pulsating tumour. It mostly occurs when no ligature, but merely a compressive bandage has been applied. If not curable by pressure, recourse must be had to opening the sac and ligation of the artery. Erysipelatous inflammation is an occasional, purulent deposit—a more rare sequel of the operation.

CHAPTER VII.
INFUSION.

Chirurgia infusoria.—Ars infusoria.—Ars clysmatica nova.—Paracentesis venarum.

By the term *infusion* is meant, the injection of a fluid into the veins; by *transfusion*, the transference of blood from the vascular system of one individual to that of another.

Infusion is seldom had recourse to in modern practice, except in cases of urgent risk of suffocation from the presence of a foreign body in the gullet, which can neither be withdrawn or pushed downwards; or where the propulsion would be dangerous, and œsophagotomy not immediately practicable. It may be further conditionally advised in several nervous diseases, hydrophobia, epilepsy, tetanus, and so forth.

It seems to have been originally tried on the human subject in England by Wren, in the year 1656, but Koehler was the first to establish its utility in relieving a man of a portion of flesh lodged in his throat, by the infusion of tartar emetic into his veins. Hemman cured epilepsy with musk, and a putrid fever by infusing a decoction of cinchona. Blumenbach instituted researches with air, and G. C. Siebold with opium. Meckel, the younger, cured a case of melancholy and apparent death with tartar emetic. Laurent, Percy, and Onsenoort were successful in tetanus with opium and extract of stramonium. Magendie injected water and other matters; Von Graefe tartar emetic; saline solutions were thus exhibited by Froriep in cholera. I have myself pursued the practice of infusion in numerous instances with various results; in none was the issue fatal.

As regards the general action of substances introduced into the circulation in this way, it may be assumed, that even the most harmless, as tepid water, may prove mortal if urged too quickly, or mixed with air. Other fluids of a thick consistence cause death by obstruction of the capillaries of the lung, such as oil, mucilage, and also quicksilver.

It is obvious that the operation of infusion must be viewed as an extreme expedient, only to be used ith reserve and precaution, and where other remedial means have failed. The cases in which it may be justifiable are those of suspension of respiration from hanging, strangling, intoxication, trismus, hydrophobia, epilepsy, choking from mechanical obstruction causing closure of the glottis, but, above all, hæmorrhage.

Of the liquids employed for this purpose, epid water is the principal. Magendie witnessed he most alarming hydrophobic symptoms assuaged by its employment. When injected at low temperature, it determines a kind of gue fit, and very readily inflammation of the ungs. Salts, such as nitre, sulphate of soda, chloride of sodium, produce respectively their cooling, aperient, diaphoretic, and diuretic effect. It is, however, seldom necessary to employ them thus, except in the instance of cholera, because they generally act with certainty when taken into the stomach. A solution of tartar emetic operates in a few seconds, and is not followed by any bad consequences; sometimes, indeed, emesis is postponed, or alvine evacuation ensues without vomiting. With the "Aqua Binelli," a hæmostatic nostrum, the results were negative.

The operation is performed on a vein at the bend of the arm; an opening being made with a lancet, the warm liquid is thrown in with a syringe. The patient is to be seated as for blood-letting. A bandage having been applied round the arm, a fold of skin is taken up and divided with a scalpel to the extent of three-quarters of an inch. The vein is now perceptible as a thick bluish cord within the wound. The superincumbent cellular texture is to be raised up with dissecting forceps, and separated

with a few scratches of the knife. At both the upper and the under angles of the incision, a thick waxed silken thread is to be insinuated beneath the vein, and placed, without being tied, in the hands of two assistants, by whom each is to be slightly drawn, in order to confine the blood in the interspace.

The next step is opening the vein, which is effected with a small scalpel; on dilating the puncture thus made, a portion of the pent-up blood escapes. Taking advantage of this moment, when the wound in the vein is most conspicuous, the surgeon introduces a small slightly curved tube, an inch and a half long, furnished superiorly with two rings for securing it, into the vein half an inch deep, of course directed towards the heart.

Then follows the injection. A trustworthy assistant charges the pump or syringe with the warm liquid, turns it with the nozzle upwards, and presses on the piston so as to expel any entangled globules of air; he then approaches it to the canula in the vein, which he fills brimful with the liquid, without, however, connecting the nozzle and canula together. When the canula is full, he then inserts the syringe nozzle within it, and while one assistant slackens the uppermost thread still in his hands, the operator slowly propels the contents of the syringe. This must be executed very gradually, and an occasional pause made, so that the transit of two ounces of liquid should occupy at least five minutes. The canula lies unattached within the skin, of which the walls are grasped by the left thumb and fore-finger of the operator, lest it fall out, or the fluid flow back.

After the procedure is terminated, the canula is to be withdrawn, still full of liquid, the vein meanwhile being fixed, the wound cleansed with a wet sponge, the threads removed, and the cut edges retained in apposition with spirally laid strips of adhesive plaister, surmounted by a compress and roller. The arm is to be kept at rest for fear of suppuration. The dressing is not to be disturbed until the wound is healed.

If the operation have to be repeated on the first or second day, the wound must be carefully opened afresh, by delicately drawing the lips apart, after previous fomentation with hot water; and then proceeding as above described. If, however, three or more days have elapsed, a vein must be opened in the other arm, for repetition of the infusion. The selection of a second vein in the same arm is improper, both on local and general grounds. The close proximity of the two wounds is apt to produce diffuse cellular inflammation and phlebitis. No foreign substance ought, for any consideration, to be introduced subsequently within the vein, as it will only tend to irritate and do mischief.

I have found the above mode of operating the most efficient and least perilous. It possesses the following advantages: it renders impossible all ingress of air; the canula is easily introduced; and any annoying hæmorrhage from the orifice prevented by the traction of the thread. If an attempt be made to substitute mere pressure with the finger for that of the ligature, at every instant the wound will be welled with blood, and it will be next to impossible to find the opening with the canula; if, again, the blood be washed away, the vein will become so collapsed, as to be scarcely cognisable. Ligation of a vein is fraught with even more jeopardy after the operation of injection than at other times; and is, moreover, quite as superfluous as after bloodletting.

REVIEWS.

On the Cryptogamous Origin of Malarious and Epidemic Fevers. By J. K. Mitchell, A.M., M.D., Professor of Practical Medicine in the Jefferson Medical College of Philadelphia. Pp. 137. Philadelphia: Lea and Blanchard. 1849.

By demonstration, the truth of a proposition is made unequivocal. Induction may lead to a degree of probability little short of certainty. The highest amount of proof the argument from analogy affords is, that of rendering a statement not very improbable. By induction we pass from known facts to general laws respecting those same facts. In the argumen from analogy we reason not from facts identical in kind, but only from facts bearing some similarity to each other. Analogy is the foundation of most theories; induction of laws. The laws that regulate the spread of epidemic diseases are capable of being ascertained by long-continued and accurate observation, and by careful induction from the facts observed. Science may, when these are discovered, stay the desolating effects of epidemics, by removing the conditions necessary for the development and diffusion of the poisons on which they depend. The nature of matter can only be known by demonstration; that which admits of demonstration ought not to be inferred from analogy.

To illustrate our assertion, that analogy affords no proof, a fact too often forgotten by the framers of theories, the book before us offers a curious example. Having observed, that fungi leave behind in the soil from which they spring, a something incompatible with the growth of the same species of fungi in the same soil, our Author remarks, that we can readily understand, reasoning from analogy, why small-pox should only attack a person once during his life; for, says he, if the first attack be due to the development of fungi in the blood, then will these leave behind them a something incompatible with the growth of the same species a second time If this mode of reasoning be correct, a something is superadded to the normal blood during the progress of small-pox.

Another hypothesis to explain the fact of the non-recurrence of small-pox in the same individual has been advanced and supported by Professor Liebig. It is the theory of ferments. Suppose, says that illustrious chemist, that in the blood of the infant there exists a kind of matter capable of undergoing a species of fermentation, which process is the disease called small-pox, that this matter, like all fermentable material, is capable of being excited into action by a small portion of the same matter in a state of fermentation, then a person affected with small-pox gives off a portion of this ferment, and so excites small pox in one who has not had that disease; but when once the disease has terminated, then the fermentable matter being all destroyed, the same action cannot be renewed. So that according to this second hypothesis, as strongly supported as the former by analogy, a something is removed from the blood while the patient experiences small-pox. As if to expose the weakness of this mode of reasoning, a third hypothesis has been started by Mr. Paget, who, rejecting the matter added according to Professor Mitchell, and the matter taken away according to Professor Liebig, considers that some change takes place in the blood itself during the progress of small-pox; and refers the insusceptibility of a person to a second attack, to the assimilating power of the blood, whereby it makes the new blood to resemble itself in all particulars.

Having thus given our readers to understand that analogy is held by us as of little value when brought forward as proof of the truth of theory, and believing that the attempts to determine the *nature* of epidemic diseases in our present state of general knowledge is futile, that time is wasted in the endeavour, which had far better be spent in efforts to learn the laws which regulate their development and diffusion, we may state that it being understood that the foundation of Professor Mitchell's theory is analogy, it is one of the best worked out we ever read. Every page of the work speaks of the extensively read scholar and ingenious reasoner. The book consists of six lectures delivered by the Author to his class in the Jefferson Medical College, Philadelphia, in which he holds the rank of Professor of Medicine.

In the first Lecture the Author demolishes, very effectually, the malarious and other partially received hypotheses, and then proceeds, in the subsequent Lectures, to build up his own theory, which is, that all epidemic diseases, and cholera and yellow fever in particular, have, for their immediate cause, the presence of fungi in the atmosphere and in the blood, the spores being absorbed through the pulmonary mucous membrane.

Professor Mitchell's chief arguments in favour of his own hypothesis, are founded on—

The vast number, extraordinary variety, minuteness, diffusion, and climatic peculiarities of the fungi.

The power of the spores of fungi to penetrate into and germinate upon the most interior tissues of the human body.

The alleged fact, that, introduced into the body through the stomach, or by the skin or lungs, cryptogamous poisons produce diseases of a febrile character, intermittent, remittent, and continued; and it is here also stated, that "many cutaneous diseases, such as favus and mentagra, are proved to depend upon cryptogamous vegetation, and even the disease of the mucous membrane termed Aphthæ, arises from the presence of minute fungi." This latter is undoubtedly an error, for the minute vegetations in the scabs of favus, &c., exist there only because the spores find in the diseased secretions a nidus suited for their development.

The frequency with which epidemics are accompanied by a fungiferous condition of the earth and atmosphere, even when the hygrometric state of the latter does not afford any unusual moisture for their sustentation and propagation.

The great prevalence of endemic and epidemic diseases in autumn, and the fatality of exposure to night air in marsh countries, may, according to the hypothesis, be explained by the greater powers of growth of fungi at those times; and the habits, it is asserted, of the known species of cryptogamic plants, explains certain facts respecting epidemic and endemic diseases inexplicable on any other hypothesis, such as their localization, the obstruction offered to their spread by a road or wall, a screen of trees, &c, the security afforded by artificially drying the air; the phenomena of the curious disease of cattle called milzbrand, and the milk sickness, and the wonderful irregularities of the progress of cholera. How far it explains the non-recurrence of small-pox, &c., to which explanation its Author attributes some value, we have already seen.

To those who are fond of ingenious theories, we strongly recommend the little book before us. While men who, like ourselves, look in general on such productions but as the glitter and tinsel of medicine, which, however enticing, ought never to lead us from seeking the sterling gold of fact, will yet be amused, and even edified by these pages of what their accomplished Author himself aptly styles, "mingled reason and fancy."

MR. CHARLES KNIGHT'S MANUALS.

Manuals of the Duties of the Poor-law Officers.—Medical Officer. By W. G. Lumley, Esq., Barrister-at-Law, one of the Assistant Secretaries of the Poor-law Board. 12mo., Pp. 92. C. Knight, Fleet-street.

The Nuisances Removal and Diseases Prevention Act, 1848 (11 and 12 Vict., c. cxxiii); with an Introduction, Notes, Index, and Appendix, &c. Second Edition. By W. G. Lumley, Esq., &c. 12mo. Pp. 168. C. Knight.

The members of the Medical Profession, interested in the administration of relief to the poor, have to thank Mr. Charles Knight for a very useful and unpretending little Treatise on the Duties of the Poor-law Medical Officers. It supplies a very lucid exposition of the various matters with which it is desirable the Medical Officer should be fully acquainted. It gives accurate details concerning the appointment of Medical Officers to the workhouse and to districts, the requisite qualification, the remuneration, the term of office, and the regulations as to the personal discharge of duties. The book also contains a distinct enumeration of the duties prescribed by the regulations of the Commissioners, and those which the Legislature have deemed it expedient to impose. We have no hesitation in stating, that this Manual ought to be in the hands of every parish surgeon throughout the length and breadth of the land.

Mr. Charles Knight is also entitled to the best thanks of the community for another little volume,

detailing the Act for the Removal of Nuisances and the Prevention of Diseases, and containing ample particulars of the measures which have emanated from the Imperial Parliament, and from those in authority under it, relative to these important subjects. Assuredly, at this time, when such well-grounded alarm is felt on all sides for "the pestilence that walketh in darkness, and for the destruction that wasteth at noon-day;" when thousands are falling weekly, it behoves each individual in the realm to be acquainted with the means which have been enjoined for abating this fearful mortality. Every householder or head of a family ought to be in possession of this excellent digest.

DISINFECTING LINEN.

[To the Editor of the Medical Times.]

SIR,—The mysterious agency by which complaints of the most serious nature are conveyed from one individual to another, and the sudden attacks and dangerous diseases to which apparently healthy persons are subject, have long been matter of scientific and medical investigation, but yet remain impenetrable to human sagacity. That all effects proceed from causes is too self-evident a proposition to be disputed; and in the absence of positive evidence every one theorises on some favourite notion of his own; some ascribing the prevailing scourge of the cholera to a superabundance of electric matter in the atmosphere; some to a deficiency in this fluid there or in the earth itself; another to excess in living; another to want of proper diets and stimulants. Whatever else be the cause, it is clear that where there exist unwholesome exhalations, unventilated and unclean dwellings, or dirtiness of person, a predisposition to cholera exists, and it finds more abundant victims in such quarters. What holds good in the case of cholera is applicable to disorders of a less dangerous and fatal kind.

The question of contagion or non-contagion, in a vast variety of maladies may be left to the disquisitions of the curious in these matters. As to cholera, the prevailing opinion is, that it is contagious; but taking natural feelings for our guide, whether as exhibited in the reason accorded to humanity, or in the instinct vouchsafed to animals, by the Great Parent of the Universe, there is a natural repugnance in a healthy and sound person to approach near to, or touch, the person, or clothing, or bedding, of a diseased and suffering individual, the office of ministering to the wants of such being mostly left to some near female relative, or to nurses hired for the purpose. But some diseases are notoriously contagious, and require the most particular avoidance, not only of personal contact, but of the clothes, and bedding, and atmosphere breathed by affected persons. There are, at least, twenty-one diseases recognized by the faculty as contagious, and it is well known that human effluvia are at all times injurious to health, and, in a closely concentrated state, is fatal to life. This morbid effluvium is given off powerfully by persons in a sick state; vitiated perspirable matter is absorbed by the body and bed linen of the patient, and there is no substance which retains the poison in some diseases, and the miasma in all, than the *linen* and *cotton* of which the inner clothing and bedding are universally composed. This brings us to the subject matter of these remarks, of which the foregoing is the exordium.

The various modes in which attempts have been made to take the grease out of woollens, to clean and whiten cottons, and wash linen in domestic use, show that the problem to be solved simply consists in saponifying the animal and vegetable greases contained in them. The manufacturers of cloths and of calicoes, who make use of soap water and soda to saponify the greases therein contained, know perfectly well, that the degree of the heat of the water, and the degree of strength of the sod, must be calculated to a great nicety, otherwise these greases become fixed both in wool and cotton, instead of being extracted therefrom. Still, however, we go on washing the clothes of our houses and our hospitals, &c., with the same materials, soap, soda, and water, but permitting the servants to employ these substances by mere chance, the result of which is, that the clothes acquire a grey or yellow hue. It, therefore, follows, that the grease in the linen of domestic use is very analogous to that contained in wool, and requires the same process for its extraction; but it is certain that a portion of the grease which the linen contained, previous to its washing, still remains in it, if it does not undergo the same process as that needed for extracting it from wool.

Let us now suppose linen used by a patient labouring under fever, or any other disorder which is accompanied by violent perspiration: might it not be reasonably apprehended that the disorder might be communicated by another person using such linen in which the perspiratory matter yet remained, from imperfect washing? This is of frequent occurrence in the hospitals, where the linen of a patient afflicted with (or who had even died died of) cholera, is handed to a cured patient on the eve of returning to his family.

In public bath-houses, a peculiar process of *quickly drying*, enables the bathers to use the same towel to the extent of twenty different persons in a few hours. It is clear, that here mischief may and does arise, which imperatively calls for prevention at the hands of all scientific men and philanthropists.

The modern usage in London, and in other large communities, has changed the domestic habits of our ancestors, and instead of the family clothing forming the occupation of a periodical washing *at home*, it is now too common for families to entrust their clothes to the laundress, and never to consider or inquire with whose clothing the ablutions have been jointly made. The fact, however, is, that, without respect to rank or condition, -without regard to health or sickness,—without, indeed, a moment's consideration of the consequences,—the heterogeneous mass is confided to one *common tub*. The manifestations of rubbing till the skin of the washerwomen's hands comes off, and the strength of the clothing destroyed, go on through three waters, and end in a partial cleansing, without effecting any complete purification. Much greasy matter remains, and that in a state highly capable of conveying contagion.

Discussing this subject with a foreign gentleman, some time since, he acquainted me, that in parts of the Continent, and more particularly in the South of Europe, use is made in hospitals and other public institutions, and enforced by laws of an ancient process, called "*The Lessive*," the good effects of which have been acknowledged for ages; that its operation required time, care, and rather laborious work; but that he himself had invented and patented an apparatus simplifying this ancient mode of "the lessive," by which the labour is more than half diminished, the operation much shortened, and the expense greatly economised, whilst the purifying process was complete. Seeing that I manifested a desire to see the apparatus at work, he kindly and courteously invited me so to do, fixed a time for the purpose, and engaged me to send a quantity of soiled clothes from my own family and friends, that I might see the effect upon them, desiring that they might contain some articles well stained and discoloured by age and use. Accordingly, at the appointed time I witnessed the whole operation, from the beginning to the placing the articles to dry. The apparatus consists of an ordinary fire-grate, communicating by a short funnel to the kitchen chimney. Over this is a boiler with a false bottom, containing water to a small extent, and regulated by a cock in its side. Into this cistern, provided with free passages for the steam, the clothes to be washed, being previously submerged in cold water, containing a little common soda, are placed without any rubbing or scrubbing whatever. Steam and water of various temperatures are conveyed constantly to them, and through them by the aid of a small pump, which discharges the water over the clothes till all the foulness is purged and carried off. This variety of temperature is necessarily applied, seeing that the soils of linen vary, and that whilst a certain degree of heat will dissipate some stains, others will be unaffected. The cistern is so contrived, that no fire can approach to burn the linen,—a small quantity of wood served the fire for about two hours, and the economy of soap, as compared with that article in ordinary washing, was said to be a saving of three pounds out of four.

By this simple and easy process—to be taught in one lesson, and worked by a child—the linen is made quite clean, is of extraordinary whiteness, is entirely free from smell, and being subjected to cold immersion, was in a few minutes conveyed to the drying yard. The apparatus itself distinctly showed when the steaming operation was finished. The economy is great; but the comfortable reflection is, that there is no improper mixture of clothing, no risk of contagion, and wherever sickness had prevailed, or death had happened in a family, the patient's clothes and bedding could be subject to a distinct cleansing. Linen and cotton body clothes which have undergone the usual process of washing, if submitted to "the lessive," will still yield a sufficient quantity of fat or grease to form soap, thereby, I think, showing that ordinary washing does not prevent contagion. I am aware that this may not be altogether a medical subject; but referring, as it most assuredly does, to a matter now painfully affecting the public health, I trust it will find a place in your *Medical Times*, and I shall be happy to give any further information in my power to those who shall desire it.

I am, Sir, most obediently yours,

G. W. BLANCH, M.R.C.S., Edin.

3, Albion-place, Blackfriars-road, Sept. 1, 1849.

DR. STEVENS' SALINE TREATMENT.

[To the Editor of the Medical Times.]

SIR,—In perusing the article on Dr. Stevens' Saline treatment of Cholera, contained in the last Number of your valuable Journal, I find that Dr. Stevens recommends soda effervescing draughts when the stomach is very irritable. Now, I have tried these draughts largely with the double object of administering the saline treatment, and, at the same time, allaying the vomiting; but they appeared to me to have quite an opposite effect; and so thought my patient, who was dreadfully afraid of the "fizzing draughts," as he termed them, and at length refused to drink them, on the plea of their increasing his sickness.

In this case, the rice-water evacuations having continued almost incessantly for four days, I at last tried the following draught, which was perfectly successful in checking the vomiting. Nor did the irritability of the stomach re-appear:—

℞ Acid. hydrocyan. dil., ♏iij.; sodæ bicarbon., gr. vi.; aquæ puræ, ℥j. M.

I remain, Sir, your obedient servant,

J. D. C.

Portsmouth Sept. 2, 1849.

CHOLERA IN DUMFRIES.

[To the Editor of the Medical Times.]

SIR,—In answer to your Dumfries' Correspondence, published September 1st, allow me, through the medium of your columns, to offer an apology, and with it an excuse for my error. During the virulence of cholera in Dumfries, in a conversation with Dr. Grieve as to the probable causes, or those ascribed for the epidemic, I spoke of the shock which I invariably experienced from contact with a choleric patient, as a fact to support the theory, ., that there was a close intimacy existing between that disease and electricity; at the same time expressing my surprise that no writer had called attention to the subject. Dr. Grieve did not then correct my error; but, in doing so now, adduces my youth as an aggravation of the offence—presuming upon which (I suppose) the letters of Drs. Grieve and Browne have been followed up by some editorial remarks perfectly uncalled for.

My letter, of August 26th, had special reference to the propagation of cholera by contagion; and had this subject—merely introduced as a casual observation—been corrected with more *feeling*, the remarks would have been better appreciated. With a deep sense of—and sorrow—for my ignorance in professional literature,

I am, sir, your most obedient servant,

JAMES SMYTH.

Coleraine, September 3, 1849.

NITROUS OXIDE IN CHOLERA.

[To the Editor of the Medical Times.]

SIR,—Having witnessed the effects of *nitrous oxide*, when inhaled experimentally, the notion occurred to me, that it might be useful in cholera. I commenced a search which extended through different Medical Journals, and among the recorded professional experience of 1831, and the following year, there is a suggestion (*London Medical Gazette*, Nov. 19th, 1831) for the use of the above vapour; in the writer's own words, he thinks that "the symptoms (of cholera) might be *relieved* by the inhalation of the *protoxide of nitrogen*, or *dephlogisticated nitrous air* of Priestly." In another paper, by Dr. Shearman, (*Lancet*, 14th Oct., 1848,) the contributor says:—"I have made up my mind, should nothing more be discovered respecting the pathology of cholera; and, considering

the failure of every other mode of treatment, that I will treat any case verging into the state of collapse by first taking away as much blood as I reasonably can from a vein in the arm, (no easy matter,) and then immediately transfuse warm blood from the most healthy subject I can meet with, *and keep up respiration as long as possible, with equal parts of oxygen gas and atmospheric air.*"

Can you, or any of your readers inform me, if nitrous oxide, or an atmosphere charged with oxygen, has ever been exhibited by way of the lungs, as an antidote for cholera,—under what circumstances,—and with what result?

Being a student, I ought, perhaps, to hold myself contented with merely asking the question,—leaving it for more experienced men to reply. But, I cannot refrain from saying, that, in looking over the numberless papers having reference to the pathology of cholera, I am strongly impressed with the idea, that nitrous oxide is indicated as an important remedy. To select one instance from many others:—Dr. Bell, (*Med. Gazette, Jan. 7th and 14th*, 1848,) after maintaining cholera to be 'a form of ague, of the quotidian type, and after showing the congested state of the veins and capillaries, speaks thus of *iron* as a curative agent." Iron seems especially used for the purpose of *facilitating the oxygenation of the blood*, and enriching it as in chlorosis, and in aiding the action of a feeble heart, probably by its influence in causing the blood to pass more freely through the lungs, and thus diminishing the tendency to congestion," &c. If iron, therefore, be of so great utility, may it not be presumed, that nitrous oxide will prove of still greater use in the oxygenation of the blood, in the relief of congestion, and in its generally stimulating effects upon the system; being, moreover, by inhalation, applied directly to the seat of the evil? But there is another author, whose opinions I will presume to cite, inasmuch as they fully corroborate my own previously-adopted views of the origin of the disease, and as he shows by arguments, *à priori* as well as *à posteriori*, the want of an agent like that I have suggested. Mr. Thom says, (*Med. Times*, March 11th, 1848,) that "with an increase of *temperature* and *moisture* there is also an augmentation of the bulk, and diminution of the specific gravity of the air; so that a volume which fills the lungs contains a *proportionately less quantity of oxygen* than it would otherwise do. . . . Yet we admit that this alone is not sufficient to produce those death-blasts which pass over India in certain seasons, but that it is merely the first link in the chain of causation. . . . Let us suppose any sudden or unusual congestion to take place in a system already impregnated with so much grave, although latent, germs of disease. . . . It is almost needless to observe, that such a phenomenon would lead to the most dangerous and fatal results. . . . The next point which forces itself upon our notice is, *the presence and agency* of phenomena during and preceding cholera, which *were eminently favourable to a morbid congestion of the circulating mass*, whether previously deteriorated or not; these I consider to be, undue moistures in the air, and a deficiency of the ordinary currents of winds; both being equally unfavourable to the process of evaporation."

It needs no very profound knowledge of meteorology to discover an analogy between these characteristics of an Indian climate and those of our present summer; but, abandoning this point, may it not be reasonably surmised that the poisonous effluvia of the churchyards and sewers of large cities, like London, contaminate the air and produce cholera, not merely by admixture, but by a chemical union with its important element—oxygen? Certainly, the air, like any other gaseous mixture, is subject to such chemical deterioration; and, perhaps, the wide diffusion of the disease is thus more readily accounted for.

I regret having troubled you with so long a letter; but in order that my question might not appear trivial, I have been obliged to explain, in some measure, my reasons for asking it. I am in daily anticipation of having some cases of cholera to deal with, and I should really feel extremely obliged for your opinion as to the propriety of using nitrous oxide in a dilute state, if collapse should ensue.

Yours respectfully, F.

CHOLERA TREATED BY SALINE INJECTION.

[To the Editor of the Medical Times.]

SIR,—The intense interest which all must feel in that fearful malady, the cholera, will, I trust, be a sufficient apology for my requesting the insertion of the following remarks in your valuable Journal.

I was sent for on Tuesday, the 21st instant, at 12 p.m., to visit Benjamin Jolly, aged 15 years, of spare habit, and residing at 13, Stanley-street, Great Western Railway. I found him suffering from true Asiatic cholera. The symptoms had run a rapid course: he was quite pulseless, the purging, vomiting, and cramps had been of a most severe character; the rice-coloured evacuations extremely profuse, thirst intense, the corrugated and blue skin strongly marked, and when I arrived he was in a state of collapse. Having the Sunday previous witnessed the marvellous effects produced by saline injection into the veins, I determined, without a moment's hesitation, to employ this remedy, feeling sure that no means ordinarily adopted, (and I witnessed every mode of treatment in four or five hundred cases at Yarmouth in 1832,) would prove of the least avail. Not being aware, till I arrived, that it was a case of cholera, some valuable time was lost in procuring assistance and the necessary apparatus. I called up my friend, Mr. Girdwood, who immediately accompanied me, and, on reaching the patient, found the icy coldness of the body more decided, and the collapse more complete, and, in my opinion, he was decidedly moribund. We immediately opened a vein in the arm, and injected a quart of water at 98° Fahr.: in which 1 dr. of common salt, and ½ dr. of sulphate of potash were dissolved. In less than ten minutes our patient showed symptoms of resuscitation; the pulse returned, the skin became warm, the blue and corrugated skin resumed its natural appearance, and as soon as the warmth became more general, and the pulse was fully re-established, we enveloped him in a sheet wrung out in cold water, and covered it with several layers of blankets; hot bottles were applied to the pit of the stomach, and the calves of the legs and feet; a profuse perspiration was the speedy result. Allowing this to continue for upwards of an hour, we removed the sheet, and placed our patient in bed, enveloped in hot blankets; his pulse was then 120, quite firm; his skin warm and moist; his reason completely restored, and on his expressing a wish to sleep we left him. On my visit in the morning, I was delighted to find him much better. Some sickness and fever existed; but were speedily arrested by small doses of calomel and opium. Each day since he has gone on improving, and is now convalescent.

This case but confirms me in the opinion I have long entertained, that saline injection into the veins, if adopted before the patient becomes in too collapsed a state, is the most rational treatment, and one which I feel assured, if a fair trial were given it, would be crowned with abundant success. It narrows itself, in my opinion, into a very small compass, demand, and supply. The blood is generally deprived with intense rapidity of its serum, so as to leave it in such an inspissated state, as to be in a case I saw lately, thicker than treacle. What, then, so rational, as to supply it with its fluid properties again, and that immediately? Not by the slow process of absorption, which must, of course, be the more tardy the greater the collapse, but by introducing it at once into the circulation. I would urge my medical brethren to try the usual mode of treatment, particularly that of Dr. Ayre, in the first stages of the disease; should they fail, however, in arresting its progress, and collapse set in, not to lose a moment in employing venous injection; and the result, I am fully persuaded, will be the rapid diminution of deaths from that so fearful scourge—the cholera.

I am, sir, your obedient servant,

HENRY HOWLETT.

18, Cambridge-terrace, Hyde-park,
Aug. 30, 1849.

ASTRINGENT INJECTIONS INTO SUPPURATING CAVITIES.—Dr. Brainard, of Chicago, has made some practical remarks in reference to the treatment of extensive suppuration by astringent and stimulant injections into the suppurating cavity. In these cases, free openings, and washing the surface within with a solution of ℥ij of alum, and ℥i of sulphate of copper to the pint of water, will check its progress, diminish the quantity, and improve the quality of the pus. He is inclined also to think, that the practice prevents purulent absorption, and, by exciting inflammation, limits the spread of pus among the tissues. The same application he has found useful on the surface of large stumps, where the pus is abundant and offensive.

BANGOR AUXILIARY BRANCH OF THE PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION OF ENGLAND.

A meeting of medical men was held at the Liverpool Arms Hotel, Bangor, on Wednesday, Aug. 29, for the purpose of forming an Association of the Profession in North Wales, in connexion with the Provincial Medical and Surgical Association.

There were present, John Roberts, Esq., M.D., of Bangor; Thomas Taylor Griffith, F.R.C.S., Wrexham; John Lloyd, of Llangefni, Esq.; John W. Pring, of Bangor, Esq.; D. Kent Jones, Esq., of Llangefni; D. Williams, Esq., Surgeon to the Anglesey district of Bangor and Beaumaris Union; D. Hughes, Esq., Surgeon to the Carnarvonshire district of Bangor and Beaumaris Union; Thomas Charles, Esq., Bangor.

Letters approbationary of and promising support to the meeting having been received from many other medical practitioners, were laid on the table.

Mr. Taylor Griffith, Wrexham, was by acclamation elected President of the "North Wales Branch" of the Provincial Medical and Surgical Association of England.

The following gentlemen were nominated as a Council, viz.:—John Roberts, M.D.; John Lloyd and J. W. Pring, Surgeons.

Secretaries:—D. Kent Jones, D. Hughes, and D. Williams, Surgeons.

The President having taken the Chair,

Dr. John Roberts rose, to move a resolution. With regard to Union officers, it was felt that their situations are not certain, that they are not properly remunerated; but the great grievance seemed to be that they are placed under the control of Boards of Guardians. To obtaining a remedy for those grievances their efforts should be directed. The College of Physicians and the Apothecaries Company had promised to assist; but the Royal College of Surgeons have all but refused to petition. He thought best to petition on their own account; a strong application from all the Unions in the kingdom, concisely and graphically putting their case, would be attended to, he thought.

Mr. Kent Jones seconded the resolution. Union officers, he said, had many grievances to complain of; but he hoped that better times were coming; trusting that Government would see the necessity for making some change in their position, he agreed with Dr. Roberts, that petitions from each Union would be attended with good results, as having greater weight.

The case of the Union Medical Officers had been received very kindly by some of the Medical Boards; not so, however, by the College of Surgeons. It would, therefore, be for the Union Surgeons, assisted by other medical gentlemen, to press their case on the consideration of the Government in such a way as to be effectual.

The President, in putting the resolution, suggested a Committee to prepare a petition, to be signed by the Chairman on behalf of the meeting; then to have as many separate petitions as possible independently.

Mr. J. W. Pring, moving a resolution, spoke in favour of organized combination, as the best means for obtaining their object.

Mr. D. Hughes, of Bangor, seconded the resolution, expressing his concurrence with the proceedings, which he regarded as an important step towards establishing the independence of the Medical Profession.

Mr. J. Lloyd enforced the necessity for looking after the interest of the Medical Profession.

After some further conversation, leading to the

appointment of the officers, Mr. Pring moved the marked thanks of the meeting to Dr. Griffith, for his kindness in coming so far to meet his juniors, he having one of the largest practices in Wales to attend to.

Dr. John Roberts seconded the resolution.

The President returned cordial thanks. The Society would have his best wishes, and, he hoped, his best exertions. The step they had taken he considered very necessary to the Profession.

Mr. Griffith then retired, and there being some letters to read, Dr. John Roberts was moved to the chair.

Letters apologising and accounting for absence, were read from Dr. Lloyd Williams and Dr. Cumming, of Denbigh; Mr. Price Roberts, of Ruthin; Mr. Richards, Bala; Dr. O. Roberts, St. Asaph; Mr. Walthew, of Holyhead, and others, highly approving of the objects of the meeting, and communicating valuable suggestions. Some of the letters covered subscriptions.

The subject of a fund for the temporary relief of medical men, in case of sickness or poverty, of which Mr. Newnham, of Farnham, Kent, is the founder, and another fund for giving annuities to the widows and orphans of medical men, got up by Mr. Daniell, of Newport-Pagnell, were introduced and discussed. It was considered by the meeting that the amalgamation of the two would be highly beneficial.

Dr. John Roberts strongly advocated the Medical Annuity Fund.

Thanks were voted to Mr. Lloyd, with whom the proposition originated, for his exertions in the cause.

The meeting then broke up.

The major portion of the medical practitioners dined together at the Hotel when the proceedings had closed.

MEDICAL NEWS.

Apothecaries' Hall.—Names of gentlemen who passed their examination in the science and practice of medicine, and received Certificates to practise, on Thursday, August 30, 1849:—Henry Swift, Farnsfield, Nottinghamshire; Theodore Henry Stratten Royle, Stanfield, Norfolk.

Guy's Hospital.—Mr. Hilton has been elected Surgeon to this Hospital, vacant by the death of Mr. Aston Key.

Cholera.—This disease has rapidly increased during the past week in various parts of the country and in the Metropolis. The mortality has been frightfully great. The *New York Herald* gives an account of the disease appearing on board the ship Sheridan at sea. She lost thirty-one of her steerage passengers and seamen. The cholera broke out among the crew on the 7th of August. For the first eight days there were from eight to ten new cases, and from three to five deaths daily for eight days in succession. Out of twenty-two seamen, only four could be mustered in a watch. Eighty cases and thirty-one deaths occurred from the time the ship sailed. All that could be done was done by Captain Cornish and his officers for the sick. Several were ill when the vessel reached Staten Island; they were taken to the hospital.

The deaths registered in London in the week ending September 1 were 2796, of which 1663 were by cholera, 234 by diarrhœa. The mortality exceeds that of any previous week. The greatest number ever registered before in any week since 1840 was 2454 deaths, in the week ending December 4, 1847, when the last epidemic of influenza prevailed. In the cholera epidemic of 1832, parish clerks, in the old bills of mortality, returned 1021 burials for the week ending August 28: which, allowing for the defects in their returns, and for increase of population, are equivalent to 2450 deaths at the present time. The burials after that week in 1832 declined. The mortality is nearly three times the average of the season, and is sensibly felt all over the metropolis; but the inhabitants of the north and west districts, and people in the distance, can yet scarcely form a notion of the suffering on the south side the Thames, and since the middle of August, in the east districts. "The 12th, 13th, and 14th of August," says one of the registrars of Bethnal-green, "will long be remembered in this neighbourhood, the outbreak of this fatal disease being without any adequate preparation; surgeons were wanted in many places at once; the hurried passing and repassing of messengers, and the wailing of relatives, filled the streets with confusion and woe, and impressed on all a deep sense of an awful calamity."

Cholera has already destroyed, in this epidemic, 9129 lives in London.

As it is one of the purposes of the Registration Act to ascertain the "causes of death," and of the weekly tables not to gratify idle curiosity, but to point these out to the public, the registrars have been requested to give all the information they can respecting the state of every part of their districts. This many of them have taken considerable pains to do, and their notes will, it is hoped, be found serviceable to the Guardians and Medical Inspectors, now and at future times. For it is important to bear in mind, that cholera only brings into a strong light the localities which elaborate calculations in the Annual Reports prove are at all times fatal to the health and life of the inhabitants.

After the perils of this terrible week we seem to see land; but as many thousands of lives may be lost in an epidemic by negligence, so many thousands may be saved by skill, vigilance, and energy—by more ample supplies of water—by the rapid removal of nuisances from the houses and streets—by the prompt administration of medical appliances and other comforts, by the active co-operation of the Medical Profession, of the Boards of Guardians, of employers, of every householder, of every individual, with the Board of Health, and health officers."

The New Queen's Colleges.—The General Assembly of the Presbyterian Church in Ireland is to be convened "to consider whether the Queen's College at Belfast is now so constituted as to justify the attendance of their students."

Devon and Exeter Hospital.—A fancy fair was held last week at Exeter, the receipts of which for the benefit of the Devon and Exeter Hospital, amounted to 1,519*l.*; and donations have since been received raising the amount of the proceeds of 1,644*l.*

Oxford.—A site has been chosen, at Oxford for the erection of a new University Museum, which is expected to cost more than 50,000*l.*; of which part will be raised by subscription, and the remainder will be supplied from the University chest.

Six Professors of the University of Heidelberg have been suspended, for having taken part in the late insurrection in Baden, and thirty students have been expelled for the same reason.

Illegal Medical Practitioners.—A case was on Wednesday last tried at Hungerford before the County Court of Berkshire, in which a person named Bishop, who resides at Ramsbury, in Wiltshire, was charged by the Apothecaries' Company with practising as an apothecary without being legally qualified. Mr. W. H. Rowland, who appeared for the plaintiffs, stated the nature of the case, and explained that the action was brought under the 55th of George III. c. 194, commonly called the Apothecaries' Act, by which it is provided that it shall not be lawful for any person or persons (except persons then in practice as such) to practise as an apothecary in any part of England or Wales, unless he has passed his examination and received a certificate of his being duly qualified. He then adduced evidence to prove that Bishop, who possessed no certificate, had acted as an apothecary, and furnished medicines for the use of a man named Henry Bagman, who subsequently died. Mr. Astley, for the defence, endeavoured to show that the evidence had failed in proving the charge, and raised some technical objections, which were overruled by the Court. He denied that there was any proof of his client, who was a very respectable man, practising at Ramsbury as a physician and chemist, having compounded the medicine. The jury, however, brought in a verdict for the plaintiffs for 20*l.*, the amount claimed. This is said to be the first case of the kind which has been tried on the merits.

Hydropathy.—Here is Hood's illustration of hydropathy:—It has been our good fortune since reading Claridge on Hydropathy, to see a sick drake avail itself of the "cold water cure," at the dispensary in St. James'-park. First wading in, he took a "Fuss bad;" then he took a "Sits bad," and then, turning his curly tail up in the air, he took a "Kopf bad." Lastly, he rose almost upright on his latter end, and made such a triumphant flapping with his wings that we really expected he was going to shout, "*Priessnitz for ever!*" But no such thing: he only said, "*Quack! quack! quack!*"—*County Paper.*

Anatomy of Suicides.—A writer in the *Annales d'Hygiene*, who has examined about 9,000 judicial inquests of Paris, from 1796 to 1830, thinks himself warranted in assuming—1. That philosophical or premeditated suicide takes place in the night, or a little before daybreak. 2. That accidental or unpremeditated suicide takes place during the day; because it is then that the occasional causes occur, such as quarrels, bad news, losses at play, intemperance, &c. At every age man chooses a particular mode of committing suicide. In youth, he has recourse to hanging, which he soon abandons for fire-arms; in proportion as his vigour declines, he returns to his former mode; and it is most commonly by hanging, that the old man perishes, who puts an end to his existence.

Horrible Specimens of Humanity.—African travellers have spoken of a tribe of negroes who possess that ornamental appendage so much admired by Lord Monboddo, *a tail;* but their statements have never received credence. It appears, however, that a race of men with tails really does exist in the interior of Africa. In a recent sitting of the Academie des Sciences, M. de Couret related that in 1842 he found in the service of a friend at Mecca one of these wretches, the lowest assuredly of mankind. The creature had an exterior prolongation of the vertebral column to the extent of three or four inches. He stated that he belonged to the tribe of the Ghilanes, whose territory is situated far beyond the Sennar, who are thirty or forty thousand in number, worship the sun, the moon, the stars, the serpent, and the sources of a great river, (supposed to be the Nile,) to which last they immolate victims. They eat plants, roots, fruits, and raw flesh, and like it bleeding. Are very partial to human flesh, and eat the bodies of their enemies, of all ages and both sexes, whom they may slay in battle! They, however, prefer the flesh of women and children as more succulent. They rarely exceed five feet in height, are ill-proportioned, with long, thin bodies, long arms, longer and flatter hand and feet than the rest of human kind, have the lower jaw large and long, the forehead narrow and excessively retreating, the ears long and deformed, the eyes small, black, brilliant, the nose large and flat, the mouth large, the lips thick, the teeth strong and sharp, the hair woolly, but not abundant. The man examined by M. du Couret had been so long in slavery as to have forgotten his native language; but he stated that, notwithstanding he had done all in his power to subdue the savage appetite, he was twice a week seized with a rage for raw flesh, which his master satisfied by giving him an enormous lump of mutton, and that if this were not done, he felt that he could not refrain from slaying and eating a woman or child. M. du Couret says that the natural dispositions of this animal were good; that his fidelity to his master was striking; and that he was not without intelligence; but in the slave-markets of the East, where the race is not unknown, they are considered detestable.—*Literary Gazette.*

A Memorial from the inhabitants of Lambeth has been presented to the Central Board of Health, which bears the signatures of His Grace the Archbishop of Canterbury, five surgeons of the neighbourhood, and other inhabitants, against the frightfully-increasing nuisances therein set forth.

MORTALITY TABLE,
(Metropolis)
For the Week ending Saturday, Sept. 1, 1849.

Causes of Death.	Total	Average of Five Summers.
All Causes	2796	1608
Specified Causes	2794	1606
Zymotic (or Epidemic, Endemic, and Contagious) Diseases	2069	802
Sporadic Diseases		
Dropsy, Cancer and other Diseases of uncertain or variable seat	52	54
Tubercular Diseases	166	170
Diseases of the brain, Spinal Marrow, Nerves, and Senses	185	179
Diseases of the Heart and Blood vessels	33	29
Diseases of the Lungs, and of the other Organs of Respiration	94	81
Diseases of the Stomach, Liver, and other Organs of Digestion	72	70
Diseases of the Kidneys, &c.	5	11
Childbirth, Diseases of the Uterus, &c	9	7
Rheumatism, Diseases of the Bones, Joints, &c.	6	7
Diseases of the Skin, Cellular Tissue, &c.	1	2
Malformations	2	3
Premature Birth and Debility	25	22
Atrophy	32	25
Age	32	43
Sudden	15	8
Violence, Privation, Cold, and Intemperance	27	36
Causes not Specified	2	3

The following is the number of Deaths occurring from some of the more important special causes :—

Apoplexy	23	Heart	29	Phthisis . ..	100
Bronchitis ...	27	Hooping-cough	33	Pneumonia ..	45
Cholera.........	1663	Hydrocephalus	25	Scarlatina, ...	27
Childbirth	4	Influenza	1	Small pox	7
Convulsions...	58	Liver	9	Stomach . ..	9
Diarrhœa	234	Lungs..	6	Teething . ..	10
Dropsy	30	Measles	25	Typhus .. .	47
Erysipelas ...	6	Paralysis	26	Uterus	3

BIRTHS AND DEATHS

	Births.	Deaths.	Deaths over Births
Males	632	1321	659
Females	595	1475	880
Total......	1227	2796	1569

METEOROLOGY OF THE WEEK.

Day.	Mean of Barometer.	Mean of Thermometer. Dry.	Ditto. Dew Point.	Difference between the Mean Temperature of the day and the same day on an average of 7 years.	General Direction of Wind A.M.	General Direction of Wind P.M.	Amount of Horizontal Movement of the Air (Miles)	Rain in Inches.	Electricity.*
Sunday	29·927	66 7	56 6	+ 6 4	N W	W S W	1.5	0 0[illegible]	P and tension moderate 9 p m
Monday	[illegible] 841	60 2	50 0	— 0 3	N N W	N	95	0 [illegible]	Nothing shown.
Tuesday.....	29 810	63 3	53 4	+ 2 7	[illegible] W	W S W	95	0 0[illegible]	P and tension weak at 3 and 9 pm.
Wednesday.	29 767	64 6	55 3	— 4 0	W N W	N N W	20	0 00	Nothing shown.
Thursday ...	29 702	[illegible]	[illegible]	+ 5	E [illegible] E	S by W	55	0 00	P. and tension strong at 3 and 9 pm.
Friday	29·735	61 [illegible]	53 3	+ 4 [illegible]	S W.	N E & E	70	0 [illegible]	P and tension variable
Saturday ...	29 603	62 3	[illegible]	+ 2 6	E	N E	90	0 52	P & tens. weak at 9 pm
Means ...	29 772	64 0	4[illegible]				SUM 550	SUM 0 52	

* In this Column, A stands for Active, N for Negative, and P for Positive

TO CORRESPONDENTS.

Many thanks to "Justus" for his communication. We regret, however, to be obliged to decline his kind offer, since we cannot use it in the manner he suggests.

"Cod Liver Oil."—A valued friend at St. Andrew's informs us, he has found, from extensive experience, the mode of administering Cod Liver Oil most successful in removing all unpleasant after effects as two drops of medicinal prussic acid in the water in which the oil is given.

"A Correspondent" inquires the best mode of inspissating the fresh juices of medicinal plants, and of concentrating fluids generally. We strongly advise him not to make the attempt. It is time thrown away, labour lost, and disappointment gained; and, without any undue preference, we have great pleasure in referring our Correspondent to Mr. Hooper, of Pall-mall East, in whose laboratory he will find most efficient arrangements for inspissating juices, concentrating fluids, and drying plants, which, by means of a current of dry air, produces evaporation more speedily than by the ordinary agent of high temperature.

"Curiosity."—There is no law to prevent a member of the College retailing drugs.

"Pharmacien."—Scientific individuals differ as to the various species of Cinchona which correspond with the different kinds of bark.

"A Country Medical Pupil."—Parisian Hospitals are recognised by the College of Surgeons.

"An Old Surgeon."—It possesses the same virtues as the sulphate.

"F.L.S., Southampton."—1 The Prussian Apothecaries receive a liberal education, and are protected by Royal Charter 2 The business of a druggist is carried on separately from that of the apothecary

"Auctor."—The disease more frequently attacks individuals of the sanguine temperament, with light or red hair and next to these, the melancholic but it attacks in its more unmanageable forms persons of a strumous habit, with dark hair and eyes, and a fair skin It is less frequent in women than in men

"M D, Edinburgh."—It would be necessary to obtain the license of the London College of Physicians

"M R C S."—Quinine was discovered by Pelletier and Caventou

"Medicus."—A coroner's inquest should have been held, as there is no doubt the quack treated the case improperly.

"Young Physic."—1 Oxalate of lime is generally diffused through the urine mechanically suspended with lithate of ammonia 2 Dr Venables recommends the following process:—Heat in a flask a portion—an ounce or two—of the turbid urine so that all the lithate shall be dissolved; throw the whole upon a filter, and let the urine pass through while hot The oxalate of lime will remain upon the filter, and may be washed all the sides to the apex by a fine stream of pure water from a pipette If crystalised lithic acid be suspected, it may be washed by a warm diluted solution of potass, or a warm solution of the carbonate The oxalate will be accumulated in the apex of the filter This is to be opened out, and if a feather or camel's hair pencil be applied to the filter, a number of the crystals of oxalate of lime will adhere and may be transferred, by mere contact to the glass slide for microscopic examination On the urine having passed through, if the apex of the filter be perforated, the oxalate may be washed into a clean glass, by means of a stream of pure water as before and the oxalate will then be seen in the water This is a very expeditious and satisfactory process

"Galen Secundus."—Ægophony is a sound peculiar only to the presence of a small portion of effused lymph between the surfaces of the costal and pulmonary pleura, the result of pleuritis It is not heard when the effusion is copious but it is again observable when the effusion is in the course of absorption.

"Chirurgus, Boston."—Gastric irritation will excite uterine contractions after parturition but during pregnancy there may be great sickness without disturbing the fœtus

"A Obscenus."—Matriculation is necessary before entering with any Professor in the University

"On [illegible] to Commence Medical [illegible]."—The Royal Infirmary Edinburgh contains about 500 beds the fee for a year's attendance on the surgical practice is between £ and £

"Hom Medicus."—The several Boards mentioned require the Apothecaries' certificate

"G. B. L."—Malacosteon is another term for mollities ossium

"Quærens."—Since the Report made by the Metropolitan Commissioners in Lunacy to the Chancellor in 1844 two Acts of Parliament have passed, and are now in force,—the one for regulating the care and treatment of lunatics generally, and the other for the provision and regulation of lunatic asylums for counties and boroughs, and the maintenance and care of pauper lunatics therein.

"Oupper."—The formula for chloral is $C_4\ Cl_3\ O + HO$; for chloroform, $C_2\ H\ Cl_3$.

"Phis."—According to Liebig, the increased heat depends on an unnaturally rapid tranformation and oxidation of the animal tissues

"An Old Friend."—The best plan is to take some matter and inoculate Pus taken from a bubo, however, when first opened, may not cause chancre by inoculation

"F. G."—Marshe's test is one of great delicacy. Metallic deposits have been said to have been procured with only a 200,000,000th part of arsenic in the liquid.

"A Medical Practitioner" need not fear an examination at the College of Physicians. Some preparation, of course, will be necessary, though a candidate may have had "long experience in the profession."

"Senex."—A kilogramme is rather more than 2lbs. 3½oz. avoirdupois.

"Philo-Dennan."—Galvanism has been found successful.

"Gregory."—The soap used in medicine is made by boiling to dryness in a gentle heat, 1 part of soda ley, sp. g. 1 33, and two parts of olive or almond oil It is a mixture of margarate and oleate of soda, with free soda and glycerine.

"Dr. Cronin, Leicester place," writes, in reference to Mr. Blanch's paper on dry cupping :—"I wish to correct his misnomer of 'dry cupping.' This confounding the operation of Anaspasia or Traction with one totally different in both its nature and effects, is only calculated to mislead and disappoint Many who read of 'dry cupping' producing such wonderful effects, regard the whole tale as an idle fabrication, and Mr Blanch knows well that he could not have adopted a more effectual plan for disparaging and depreciating a most valuable therapeutic agent, than by designating it 'dry cupping,' a plan adopted invariably by those jealous or envious of its success."

"A Young Student, South Molton street."—Lallemand's Work translated by Mr M'Dougall.

"Studens."—The apprenticeship must be for five years,—not less Our correspondent should endeavour to make some arrangement with his master, without this there will be great difficulties in the way of being admitted as a candidate for the License.

"M.D., St Andrew's," says :—"Few persons are aware of the nature of the examination, or by whom conducted at St Andrew's. When I was in Edinburgh, preparing for it, I mixed with men, who were studying for other Universities, and had ample opportunities of ascertaining their capabilities and I feel assured that some of those who got through at Edinburgh would have been rejected at St Andrew's I do not, of course wish to disparage the former, as I think most highly of the School in all respects but to vindicate the latter as a place of examination

"An M D and Subscriber."—A degree from the University of Glasgow is a sufficient qualification for an assistant-surgeon in the East India Company's service The candidate is also required to undergo an examination by the Company's examining physician (2) The assistant's pay is equal to that of a lieutenant. (3) On applications at the East India House

"Mr C Smith, R N, Sheerness."—A letter had better be addressed to the Secretary of the Society

"Mr I H Leighton, Llandilo," says :—"In cholera, the alkaline principle, which should combine the watery and fatty matters in the system together seems to be destroyed to renew this, I beg to suggest the following mode of treatment :—The patient to be sponged all over, except the head and face, with a solution of muriate of ammonia, the body to be then dusted with pure lime, and closely covered up, to confine the ammonia, disengaged, to act upon it Oatmeal gruel, with plenty of salt in it, to be given copiously to drink." Our correspondent's proposition has certainly the merit of originality We fear however, that what with lime and ammonia, the patient would get into a pickle

"A Young Practitioner." It would be difficult to say.

"Mr Thos Pryer, Artillery place," writes us, in reference to the trial of Griffiths v Walford published in this Journal, that the plaintiff did not expressly apply for a dose of the fluid magnesia and that the defendant did not administer him a dose of Epsom salts In the report, two points are omitted the first is, the particulars of the plaintiff's demand showing the sum he sought to recover; and secondly, the amount of the verdict which he actually obtained The plaintiff endeavoured to obtain £15 [illegible] the jury gave him 5s., which entitled him to 3s 4d costs

"Mr Muggeridge" should not have given a certificate of cause of death if he wished an inquest to be held on the body

"A General Practitioner" writes, in reference to the treatment of Cholera, as follows :—"The chief characteristic of my plan consists in the exhibition of saline purgatives combined with the calomel and opium usually given and I proceed as follows :—℞ Hyd. Chlorid gr v (ad viij) Pil Sapon c Opio, gr vj (ad x) M ft. Pil ij statim sumendæ ℞ Magnes Sulphat ℥j, Magnes Carbon, ʒj, Aq Menth Piper, (fort.) ℥viss Tinct. Opii, ʒj, (ad ʒij) M Sumat Coch. ij Mag. 4tis horis, vel frequentior The rationale of this plan is, that, supposing the profuse serous discharge or hæmorrhage, as it has been termed from the bowels, to be produced by a pathological condition of the exhalents, diametrically opposite to that which obtains under the stimulating influence of a purgative salt, I consider such to be the remedy obviously pointed out as the one best calculated to remove the condition upon which this most fatal symptom depends. Moreover, practice confirms this, for we almost invariably find, that where purgative salts, especially when combined as above are given in English cholera, with a view to the removal of offending matter from the bowels, the opposite effect is produced, the vomiting and purging generally ceasing after the first dose."

"G. W. Balfour."—Received.

"Dr J Pearson."—Received.

ORIGINAL LECTURES.

LECTURES
ON
THE CHEMISTRY OF THE POISONS;
OR, ON
PRACTICAL TOXICOLOGY.
SHOWING THE APPLICATIONS OF CHEMISTRY TO THE DISCOVERY OF CRIME.

By H. LETHEBY, M.B., Lond:
Lecturer on Chemistry at the Medical College of the London Hospital.

LECTURE VII.

Mode of detecting sulphuric acid in the fluids and secretions of the body, as of the blood, peritoneal fluid, urine.—Amount of sulphuric acid in normal urine.—Increased quantity of acid passed by the kidneys in a case of poisoning.—Detection of sulphuric acid on wood and articles of clothing.—Effects of the acid on coloured garments.—Care requisite for the examination of the stain.—Illustrative cases.—Sulphuric acid a normal constituent of certain fabrics.—Experiments and cases showing the time that the acid will remain on cloth.—Mode of proceeding when the substance has been washed.—Sources of fallacy.—How they may be avoided.—Dependence that may be placed on well-conducted chemical experiments.

GENTLEMEN,—During the last lecture, we were occupied in considering the modes in which sulphuric acid is to be recognized in organic mixtures; we will, if you please, continue our inquiries into this subject.

(c.) *Method of detecting Sulphuric Acid in the fluids and secretions of the body.*—In cases of rapid death from the effects of oil of vitriol the acid may generally be detected in the fluids of the peritoneal cavity; for, as Dr. Christison first remarked, the poison quickly transudes through the walls of the stomach and intestines. So, again, it may often be discovered, in the blood of the mesenteric and portal veins, and in the small coagula which block up the vessels of the stomach. Dr. Christison lays great stress on this fact; for he says, that "an important appearance in the abdomen, to which less attention has been hitherto paid than it deserves, is gorging of the vessels beneath the peritoneal membrane of the stomach and adjoining organs with dark, firmly coagulated blood, arising from the acid having transuded through the membranes and acted on the blood chemically. My attention was first turned to this appearance by an interesting case which I saw in 1840 in the Royal Infirmary of this city, and of which an able account is published by Dr. Craigie. The whole vessels of the stomach were seen externally to be most minutely injected and gorged, and the blood in them was coagulated into firmly cohering cylindrical masses, as if the vessels had been successfully filled with the matter of an anatomical injection. This appearance was also observed in the superior mesenteric arteries, in the omental vessels, and over the greater part of the mesentery. It was occasioned by the chemical action of the acid coagulating the colouring matter and albumen; for the clotted blood was strongly acid to litmus paper. So, too, was the peritoneal surface of the stomach, omentum, and intestines. And the acid had transuded through the stomach and into the omentum and tissues of the intestines during life; for, in the first place, there was no perforation of the stomach; and, secondly, I ascertained, that there was no free acid either in the matter discharged from the stomach before death, after the free administration of antacids, or in the contents of the stomach obtained at the examination of the dead body." I would not, however, advise you to form any opinion upon the evidence which may be derived from the detection of sulphates in the blood removed from any other part of the body.

Again: an examination of the renal secretion may, perhaps, furnish you with very satisfactory proof of the administration of the poison; but you must remember, that, during the natural and healthy state of the body, the urine always contains a certain proportion of sulphuric acid in the form of alkaline sulphates. This acid is, in all probability, derived from the sulphur of the wasted and broken-up tissues, and its proportion in the urine varies from about 0·1 to 0·4 per cent. The following Table exhibits the amounts of sulphuric acid detected in the healthy renal secretion by different chemists:—

	Per cent. of sulphuric acid.
SIMON:—	
1. Normal urine	0·161
2. Morning urine on rising	0·128
3. Urine passed directly after active exercise	0·101
4. Urine passed half an hour after active exercise	0·23
BERZELIUS	0·348
LEHMANN:—	
1. Urine of 24 hours	0·37
2. " "	0·369
3. " "	0·37
DUMERIL	0·13
BECQUEREL, mean of 8 analyses ..	0·086
MARCHAND:—	
1st analysis	0·336
2nd "	0·317

And with the view of verifying these results, I have myself made a few examinations of healthy urine, and have found that the sulphuric acid contained in it varies from about 0·024 to 0·23 per cent., as the following Table shows:—

When passed.	Amount voided.	Total quantity of acid in it.	Per centage quantity of acid in it.
9, a.m.	℥vij.	7· 6 grs.	0·226
1, p.m.	℥ij. ʒvi.	0·48 "	0·036
9, a.m.	℥xx.	12· 3 "	0·128
1, p.m.	℥v.	1·88 "	0·078
3, p.m.	℥viij.	0·95 "	0·024
SECOND INDIVIDUAL.			
8, a.m.	℥x.	10· 2 grs.	0·212
From 8 p.m. to 8, a.m.	℥xxxj.	19·14 "	0·128

In cases of poisoning by oil of vitriol, however, the quantity of sulphuric acid contained in the urine is much greater. In fact, in one case of this description, which came under my notice, that of a little boy, nine years of age, who had, inadvertently, swallowed sulphuric acid, I found that the urine which was voided on the first day, after taking the poison, contained as much as 50·8 grs. of anhydrous acid; that on the second day contained 32·7 grs.; that on the third day, 14·9 grs.; and that on the fourth day, 10·4 grs.: so that, in all, I collected 108·8 grs. of anhydrous sulphuric acid,—a quantity equal to 133 grs. of the monohydrated acid, or to about one ounce and three quarters of the dilute acid of the London Pharmacopœia. I have noticed, moreover, that when sulphuric acid, or a sulphate, is administered medicinally, the remedy is eliminated, in great part, by the kidneys. In fact, I have, in this way, been enabled to raise the per centage amount of sulphuric acid voided in the urine, from 0·12 to 0·4, in the course of a few hours.

Having these facts before you, it is highly necessary that you should make an analysis of the renal secretion, in all cases where you suspect that oil of vitriol has been administered; but you are not to forget that while, on the one hand, the evidence derived from such an inquiry may be of considerable importance, so, on the other, apart from any collateral proofs of the action of sulphuric acid, it is not of much value; for, as I have before said, the exhibition of a sulphate will give rise to the very same series of results.

(d) *Detection of Sulphuric Acid on Wood and Clothing.*—In most cases of poisoning by oil of vitriol, a portion of the acid will be thrown about; and, falling upon the floor of the apartment, or upon the clothes of the individual poisoned, it will furnish very valuable evidence as to the nature of the case.

When this corrosive liquor drops upon wood, it discolours and carbonizes the ligneous tissue, and leaves a damp spot, from which the acid may be removed by simply digesting the organic substance in a little distilled water.

So, again, when strong oil of vitriol has been spilt upon linen cloth, it will char the fabric and rapidly corrode it. Even a weak acid, which has a density as low as 1140, will act upon these vegetable tissues, and, by converting their cellulose into sugar, will produce a damp, fragile, and very soluble compound.

Lastly, with regard to the action of sulphuric acid upon woollen fabrics. I have already shown you, that these articles of clothing are powerfully acted upon by the acid in question,—that they are, in fact, discoloured by it, and made damp and rotten.

Should any of these substances have been dyed, the acid will, in all probability, act upon the colouring matters, and produce effects which can be readily distinguished. Mr. Taylor has discussed this matter so clearly, that I shall quote his observations upon the subject:—"If the dress be dyed blue with indigo, the colour will be unchanged; if dyed with archil, and some other blues, the spot may be reddened, and red streaks will be found wherever the acid matters have passed over the dress. Logwood and madder, which are largely used in dying many of the common calicoes, are turned of a yellow colour by strong acids; and wherever an iron mordant has been employed in the pattern, there will be a rust-red spot. In a very diluted state the acid is slow in acting, and the stain, when recent, is red. I have found, by experiment, that whether the acid be used in a pure state, or darkened by organic matter, the effect is the same; and it would be impossible to say whether the colourless, or coloured, (carbonized,) acid has been employed for the purpose of producing it."

The stains, therefore, produced by sulphuric acid, are very important facts for your consideration; but you must not be guided by them alone, and you must also take great care that you do not confound them with discolourations produced by other causes, as the following instances will show:—

In a case alluded to by Mr. Taylor, a prisoner was charged with the murder of an infant, by thrusting some corrosive substance into its mouth. "The witnesses for the prosecution deposed, that they saw the prisoner put something, of a pink colour, into the child's mouth; that the child was then sick, and vomited over its own dress,—some of the liquid falling upon an apron which the prisoner wore. There was no proof of poisoning, but these spots were considered to bear strongly against the prisoner. On examining them, says Mr. Taylor, I found that the dress of the child had been dyed with cochineal pink; that the stains were of a crimson colour, and not corroded: the apron worn by the prisoner was died with madder-purple; the spots on it were small and circular, not lengthened, like those which would be produced by the act of vomiting; the dye was changed to a *yellow*, and the fibre corroded. It was, therefore, clear that the spots on the child's dress had been caused by *an alkali*,—those on the apron by *an acid*; consequently, they could not have been produced at the same time, and from the same cause.

A case of a like description, in which a careful inquiry into the nature of some spots found upon a man's coat tended to annul a criminal charge, occurred in my own practice in the summer of 1848. A gang of thieves had been committing numerous depredations in the neighbourhood of Ilford, and had for some time defied the vigilance of the police. One night, however, the plunderers were disturbed in their operations, and one of the thieves, in order to effect his escape, threw himself from a high window. By so doing he was cut and bruised very much, and it is believed that he was rendered insensible, for his comrades took him up, and effected their escape. Blood flowed freely from his wounds, and, upon instituting a search among the suspicious characters of the neighbourhood, a man was found whose coat appeared to be stained with a sanguineous fluid; but, on making a careful examination of the garment, I discovered that the red spots, supposed to be blood-spots, had not been produced by the fluid in question, but by a solution of sulphuric acid—a fact which was sufficient, there being no other proof of guilt, for an acquittal of the prisoner.

The process whereby you will succeed in detecting the presence of free acid in such organic substances, is the following:—Cut out the spot pro-

duced by the questionable matter, apply it to your tongue, and notice if it have a sharp acid taste. Then moisten the substance with water, press it upon a piece of litmus paper, and observe whether it stain the paper of a red colour. Lastly, digest the substance in about thirty drops of water, and test the solution so obtained with chloride of barium and nitric acid.

By proceeding in this manner, you will generally succeed in recognizing the presence of the free acid, notwithstanding that a considerable period may have elapsed since the tissue of the organic compound became impregnated with it. In the course of some experiments which I made last summer, I found that, when fifty grains of a liquor containing 10 per cent. of sulphuric acid, were dropped upon a piece of linen cloth, and then set aside for a period of six weeks, I could readily dissolve out about 4·5 grains of the original acid. Similar results were obtained when I used a stronger or a weaker acid; and I noticed, also, that, when fifty grains of this acid liquor were thrown upon a piece of woollen cloth, and allowed to act for the same period, I could, by washing the flannel so treated, recover about 3·9 grains of the acid first used. These experiments are confirmatory of results obtained by other toxicologists; for Dr. Christison, in referring to the case of Macmillan, which was tried in Edinburgh in the year 1828, says, that "Dr. Turner and I, who were employed by the Crown to examine the different injured articles of dress, found on the man's hat, stock, shirt-collar, and coat, many discoloured and corroded spots, which were sour to the taste fourteen days after the crime was committed. In the subsequent case of Mrs. Humphrey, I discovered six-tenths of a grain of free sulphuric acid in two small spots on a blanket seven weeks after the crime; and, from an express experiment on the same blanket with two drops of acid of known strength, it appeared that only one-half of the acid disappeared in seven weeks." And, says Mr. Taylor, "I have ascertained by experiment, that sulphuric acid may be easily detected on articles of clothing after many years' exposure (to the air). In January, 1831, a small quantity of this acid was spilled on a black cloth dress; it has been exposed in an open jar to the air for upwards of sixteen years. The cloth is changed to a deep brownish black colour; it is soft, and yields to water a brownish-coloured acid liquid, in which a large quantity of sulphuric acid may be still easily detected. In a case of poisoning, which occurred in 1832, the acid was partly spilled on a dress of printed cotton. This," continues Mr. Taylor, "has likewise been exposed for fifteen years; the organic fibre is completely corroded by the acid, and reduced to a kind of humid powder; from this substance, by the addition of water, a liquid is obtained, the acidity of which is proved by the barytic test to be due to the presence of sulphuric acid. These facts are of some interest, because it has been generally supposed, that the stains on clothing soon lose all traces of the acid, partly by decomposition in contact with organic matter, and partly by evaporation; but it is hereby evident, that such stains, if not removed by washing, may be, in some instances, detected for a period of time much longer than is ever likely to be required in any medico-legal investigation." I have quoted these remarks made by Mr. Taylor, because I consider them to be very applicable to our present inquiry.

In the conduct of these investigations, you must not, however, lose sight of the fact, that many articles of dress normally contain sulphuric acid in consequence of their having been treated, during their manufacture, with some sulphate, as alum or copperas. A case illustrative of this was referred to by Dr. R. D. Thompson, at the Glasgow meeting of the British Association in 1840. A woman had, in a fit of rage, thrown some oil of vitriol in the face of a cab-master. Some of the acid fell on his hat, and Dr. Thompson was requested to examine this article of dress. The results of his experiments showed that the injured hat, as well as an uninjured one, contained sulphuric acid; for the solutions derived from each of them reddened litmus, and gave a white precipitate with nitrate of baryta. Dr. Thompson concluded, therefore, that in prosecuting inquiries of this sort, it is necessary to make a quantitative examination of the sound fabric, in conjunction with that which has been stained by the questionable liquor, and then to compare the results obtained in the two cases. In his analyses he found that the uninjured part of the hat contained 0·356 per cent. of sulphuric acid, while the stained portions of it contained as much as 1·379 per cent. of the acid, showing that the injured parts had received 1·023 per cent. of free acid.

It may, happen, however, that the fabric or tissue upon which the acid has fallen, has been washed, and so deprived of the greater portion of the poison originally contained in it; but this you will also be enabled to determine; for, to say nothing of the fact, that both the colour and texture of the part will be considerably altered by the operation of the vitriol, a portion of the acid is almost sure to remain in the tissue in combination with its organic elements; consequently, if it be a vegetable substance, such as wood or linen cloth, upon which the vitriol has fallen, we have but to dry the suspected matters, and subject them to heat in a small test tube, in order to prove that they have been acted upon by the poison in question; for, if sulphuric be present in ever so small a quantity, it will be decomposed by the combined action of heat and organic matter, and the resulting empyreumatic vapour will have the property of rendering blue a piece of paper, moistened with starch and iodic acid, held over the mouth of the tube. This process, however, although it is extremely delicate, and particularly applicable to the detection of sulphuric acid in the commoner kinds of vegetable substances, is utterly valueless when we are operating upon matters which naturally contain sulphur, as, for example, bread, wool, hair, silk, leather, &c. Under these circumstances we cannot come to any positive conclusion as to the presence or absence of sulphuric acid, unless we make quantitative analyses both of the sound and injured parts of the substance, and compare the results; for, as I have already shown you, when oil of vitriol is brought into contact with any kind of protein compound, the acid enters so firmly into union with this organic principle, that it cannot be removed by any ordinary process of washing. Take, therefore, a given weight of the suspected tissue, wash it with water, and dissolve it by heating it in a little of the nitro-muriatic solution before-mentioned. Filter the liquid so obtained, and precipitate the sulphuric acid contained in it, by means of any soluble salt of baryta. Treat a like portion of the normal tissue in a similar manner, and, after separately igniting the two products, and then weighing them, you will be enabled to determine whether the suspected tissue contained an excess of sulphuric acid or not. I have ascertained, by experiment, that sound and clean flannel yields about 3 per cent. of sulphuric acid when it is treated in this manner, and that a woollen cloth which has been acted upon by oil of vitriol will yield from 4 to 10 per cent. of this acid.

By proceeding in this manner, you will be enabled to remove many doubts which might otherwise hang over your investigations, and perhaps solve many problems which the ordinary modes of medico-legal research, as regards this poison, are totally incapable of unriddling. Some authorities may, perhaps, regard these methods of inquiry as among the dangerous refinements of toxicological research, and say, that it would be perilous to found an opinion upon evidences deduced from such critical methods of investigation, seeing that, on the one hand, there are so many sources of fallacy, and, on the other, the serious consequences which may result from a wrong conclusion. Acting, therefore, upon a legal rather than a scientific dictum, they are ever for avoiding such dangers, and giving the prisoner the benefit of their doubts. But, Gentlemen, I regard these doubts and fears as false and unnecessary. I have, in fact, too much confidence in the results of a well-conducted chemical operation, to entertain them even for a simple moment. And you yourselves cannot too well remember, that chemistry is strictly an exact science, and that its results are always certain; that, in fact, you can only fail in your inquiries, and apparently fail in your results, when you despise that trouble and care which are registered among the most important of her rules; and you may believe me also, that no man is fitted for the performance of such momentous operations, or for the serious duties of a toxicologist, when he gets to think that a chemical process is too "operose," because it involves trouble, or "too refined," because it requires nicety and care.

It was my intention to have gone on to-day to the consideration of the impurities of oil of vitriol, and of the modes in which they are to be removed for medico-legal and other purposes; I intended also to have spoken of the fraudulent uses of sulphuric acid and its salts; but, as our time is nearly expired, we must leave these subjects for consideration in our next Lecture.

LECTURES
ON THE
PROCESSES OF REPAIR AND REPRODUCTION AFTER INJURIES.

DELIVERED AT THE

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

By JAMES PAGET, F.R.C.S.

Professor of Anatomy and Surgery to the College.

[Reported for the "Medical Times."]

LECTURE VI.

Repair of Muscles and Tendons, divided in open and subcutaneous sections.—Inflammatory effusion following the injury; effusion of reparative material; its organisation and gradual perfection.—Repair of divided nerves: the primary and secondary conjunction of their fibres.—Repair of skin: reproduction of its papillæ and epidermis.

Mr. President and Gentlemen,—My concluding lecture will be but fragmentary, consisting of the consideration of the modes of repair of fractures of the several tissues. In the former lectures I have enumerated the several parts which are capable of complete repair, and which may be divided into three classes. 1. Those in which the several elements are formed by a repetition of the first mode of formation; those which accord with the plan of nutritive repetition, in which the reproductive power is most distinct. 2. Including those which are of the lowest organic tissues—having all their bases of gelatinous matter. 3. Those which exist as parts of the tissues destined to connect it—nerves and bloodvessels. But, with these exceptions, all other parts can only be repaired; some other material is inserted in its place, and, among these, we shall only select those to which facts of interest attach.

And, first, as to the repair of cartilage. Perfect cartilage seems never to be reproduced, but is repaired with only fibrous tissue. Here is a specimen taken from a man who had cut his throat; the wound was made by a razor, and the microscope shows that there was not the smallest reproduction of cartilaginous matter. And one fact is observable here,—the very little change in the seat of the injury, after such a clear cut, for it showed characters which one could not discern from a section of perfectly healthy cartilage. Sometimes it happens, that injuries of the cartilages are repaired by osseous matter; this is seen with respect to fractures of ribs; but when this is the case, I think it should be taken that the cartilage rather degenerates into it. The repair of tendons is of peculiar interest. I have before quoted Hunter, where he says that wounds which are not exposed to the air seldom inflame. Now, here we have one of the few instances in which the discoveries of science have not been made use of in art. Hunter proved that subcutaneous operations were practicable with regard to the division of tendons. Experiments prove that the disadvantage of a section of external opening are, that the inflammatory process is of much longer duration and more acute; so that the lymph may be formed, or a process of suppuration may ensue. The permanent inconvenience is that one substance is formed for all the parts divided, and hence there is an absence of that

pliancy on the tendon which there was before. Besides, in open wounds of tendon, there is much greater liability to retraction of their ends. Now, these disadvantages are not commonly observed where the wound is speedily healed; for, if this does not take place, the process would go on as it does in a subcutaneous wound. Then it is necessary to do it merely under the skin; for, if it be done on the open wound in the tendon, the healing would ensue by the same process as that which follows in subcutaneous section. (Diagrams were here exhibited, illustrating the process of healing of subcutaneous section, 10 and 21 days after.) All these were made after instances of subcutaneous section; and are enough to prove that the repair of tendon does not depend on whether the section be made through the sheath or not; all these were made through it, and went on as well as if the tendon alone had been cut. One of the effects produced here is retraction of its end connected with the muscle. In healthy animals this retraction of the muscle extends to about one inch. The first effect of this is, that of infiltration of the inflammatory matter into the tissue between the retracted ends of the wound. This is simply inflammatory matter, and takes place through the whole extent; much collapse of the skin is not discernible. This, in ordinary cases, does not continue more than forty-eight hours. In the best specimens of repair it does not increase. Instead of increase, there ensues an infiltration of a different material—a material which has the character of simple fibrine of the blood, and in its solid state. This is formed so that it sheaths each end of the tendon, and is so deposited as to embody whatever remains of blood may be found there; and then a clot of blood may be enclosed. What is the definite design of this? The first inflammatory matter is diffused uniformly, but this is deposited no where but in the line where the repair is to be performed, just as in repair after fracture. Subsequently there is a deposit of new material; in its first production this is simple fibrinous matter, but ultimately acquires a more defined outline. Here (diagram) its margins are sometimes indefinite; in others there is a distinct cord; but within five or six days it will so far show a structure, having the characteristics of nucleated blastema, which will arrange and develope themselves so as to assist in the production of tendinous tissue. How much more energetic is the reparative process in the early stage of an injury! By the tenth day the material becomes paler, is apparently less vascular, and its tissue has a distinct filamentary character. Within three weeks it would form a perfect and continuous cord, very nearly resembling a cure. Then the parts which surround the new material are gradually more and more approaching recovery. And here it is strange to notice the distinct purpose manifested. While the new material is being developed, the other gradually degenerates. In like manner, one may notice the changes in the retracted ends of the tendon, or, rather, in the upper end. This is the reason why the reparative process is more perfect in the upper part; it is drawn far beneath the reach of the healthy tissues. There is one change to be noticed here,—a slight swelling, with softer contents, four or five days after the injury; and if this is examined by the microscope, it will be seen to depend on the effusion of filamentary matter between the filaments, so that it acquires a holdfast on the tendons. The same development ensues in the reparative materials, so that finally one gradually sees the substance of the tendon merging into the substance of the connecting cord. With regard to the reparative process in animals, there may be as much difference in the human subject and in animals, as in bones. But the difference is only slight, and in degree. But as it respects tendons the plan of repair is just the same. Here is a specimen which would warrant us in saying that the difference is very small—in a child seven years old, where the tendon Achillis was divided, and the repair here corresponds with that in rabbits. In the human subject the new material is formed upon a perfect imitation of the original structure. Mr. Tamplin has presented to the College three specimens, from a child five weeks old, of a cutting of the tendon, and which died nineteen months after the operation. On examination after death it was really impossible to discover the parts where the division was made, or to tell where the substance of the old tendon ended. When the new tendinous structure does not acquire the marks of the original structure, it is yet found to be capable of it; and I have made experiments to test this power in the new material. I took a specimen six days after the division of the tendon, and only four days of the six were occupied in the organism of the new substance, and yet it could then bear a weight of twenty-five pounds; and, in another case, by gradually increasing the weight, in twenty-one days the new material bore fifty-six pounds weight, and yet it was so organised and compacted, that after bearing a weight of forty-five pounds, it at last rent down under half a hundredweight. The repair of muscles corresponds with that of tendons. The muscles were divided at the tibialis longinus; the first efforts consisted in effusion of inflammatory matter between the ends; but a longer interval elapses before the existence of the reparative material; in muscles it is generally five, six, or even seven days. It is, in the first instance, always produced from the deepest part of the wound. The terminations of the muscular fasciculi are sunk down into the deep parts; these ends always become imbedded in the inflammatory material; and this accumulating, would pass through its several changes, gradually assuming, more and more, the character of perfect tissue. There are no instances in which transverse or muscular fibre has ever been produced in animals. I believe it is most certain that true striated fibre has never. There is a process which deserves remark, viz., its contraction; it may draw the ends of the muscle nearer to each other. In the case of cut throat the muscles had contracted, but they were drawn into perfect contact. A further step consists in the loosening of the bond of union which connects the parts, and sliding uniformly on the adjacent parts.

In the union of nerves, in most cases, repair moves by a series of changes corresponding to that in tendons. This has been demonstrated through specimens presented to the College and by drawings which display the exact manner in which they are fastened to the bone. But then there ensues in the new material, a further process of development, so that there may begin to be formed in it perfect new nerve filaments; and thus, after a long period from division of nerves, there takes place a connexion between them. Mr. Hunter obtained a view of this process, where he took a nerve from a stump, dissected it, and carefully traced into it filaments of nerves, passing for some distance into it; and also in a horse's foot, in which the sensation of the foot was restored, by the formation of a new connecting substance. Here, in the human subject, is a specimen, where, in three or four months, sensation was restored to the leg. But we need hardly now dwell more on this process, as it has been so fully described by others. We had a case in Bartholomew's Hospital, of a boy, who had a wound extending transversely across the wrist, dividing the radial artery, and cutting into the radius. That the Median nerve was divided was certain; and the question was discussed as to amputation. This was decided negatively. The parts were placed in contact; and within ten days the boy manifested distinct evidences of sensation about the fingers, and in three weeks very distinct general sensation. The remaining loss of this faculty was just enough to prove the imperfection of the union which had been made; in parts between the fore-finger and thumb he made mistakes. Without doubt, in this case, the ends of some filaments had become connected with the ends of others. When this happened, another occurred to me, in a boy who had cut right across the wrist, and where the radius was divided, together with the extensor and ulna arteries and nerves. It was decided not to amputate; it was neatly adjusted, it united, and in a fortnight the boy had distinct sensation, while that which had been imperfect went on improving till it was perfect. These cases are quite enough to justify one in the belief, that this process is more rapid than that accomplished by new fibres. We have no example in which the nerve or ganglia corpuscles have been reproduced.

I might here pass on to the consideration of other substances; but I will only now notice some general considerations; and first, with regard to the relation between the reparative process and other processes. In the process of repair, we may trace the manner in which diseased parts gradually return to their previous perfection. The reparative process is so long that it takes two years for the healing of a nerve; but this is not more than the changes common scars undergo. You do not find the common scar perfect under twelve months old; I have examined scars twelve months old, in which there was no elastic tissue; but within this period we seldom fail to observe some remnants, some cells which hang about the scar. The perfection of repair, then, is accomplished by gradual improvement of parts which replace each other, more after the type which belongs to the perfect individual. As to the relation which exists between the processes of repair and inflammation, we refer to it more out of deference to the opinion which prevails, that there is something like an inflammatory act in the repair of an injury. Now, there are several modes of repair, in which we conclude that the inflammatory process forms no part, as in the repair by immediate union, where, if inflammation does exist, it is hindered. For the repair of subcutaneous injuries, the inflammatory matter is no help; rather, if the inflammation be acute, it is a bar; while we know that that process is produced by a material of a non-inflammatory character. In primary adhesions, and by granulations, we have no inflammation, for this developes itself in the same way as the lymph does. Inflammation is only necessary for the first product; the material, once produced, acquires its characters, in the absence of all inflammation; and the healing of wounds is constantly prevented by accidental inflammation. But then we must inquire whether inflammation is not to be looked upon as a subordinate agent; and here must not overlook the fact, that it is the existence of the power which determines the development of the germ. In all the processes, we can see exact imitations. We recognise this in the lower animals. We must distinguish and mark several points: that, first, all reparative material is organized according to no model or derived from any germ. In any case of repair of tendon, the whole length of the new bond is more developed in the central parts than in the ends; nor is it to be imagined that the succession of germs is to be developed in substance like themselves. Bone is often formed in detached portions, which cut off all exercise of assimilative force. Witness the instances of two modes of development of fibrinous cellular tissue—both like the development of the fœtus—both exact repetitions of the mode in which the bone is first formed. And, again, in the formation of blood-vessels in lips, which is no new thing. Now, where there is a large mass of substance for repair, there are concurrent developments in all its parts. In a layer of granulation cells nothing is more homogeneous. One finds that it is constructed into fibrous tissue; and then, as its last characteristic, notice the limit it observes as to extent, and the mode it pursues. Reconstruction is bound down by the same laws as the construction. One marvels that the hydra multiplies itself fifty fold; but in no case could that have been turned into another species, or grown into an hydra fifty times its bulk. And so we find a perfect nerve, bone, and tendon produced, and none developed into one of a higher form. So, then, whether we watch the method or end of the reparative process, we recognise the identity between the process of repair and of our own production, and, watching this, we gain some idea from it of the essentiality of their living characters; for, when we watch the living being, in these chances of accidents, and see how it is made to deviate from a specific form, we thus have an assurance that the specific characteristics of individuals is determined by properties under the influence of

which these materials develope themselves, according to the same law which ruled in the construction of the species; and we here see that matter is not cast into the world according to its specific characters, but endowed with certain properties which might, by their constancy, bear the very image of their Creator.

ORIGINAL CONTRIBUTIONS.

CHOLERA IN CRAMOND PARISH.

By G. W. BALFOUR, M.D.

During the past year this parish has twice suffered from an outbreak of cholera. Throughout the whole of the autumn of 1848, diarrhœa, dysentery, and British cholera prevailed in the parish. On the 11th October a case of the latter, of a most severe character, occurred. The tongue was cold, cramps severe, and the urine was suppressed and remained very scanty for several days, but the evacuations were bilious from the first; there was no collapse, and the case yielded at once to treatment. The first case of true Asiatic cholera occurred on the 11th of November, and the last of the first outbreak on the 20th of December, between which dates inclusive, 23 cases occurred, of whom 8 died; 10 of these were under 14 years of age, of whom 6 died; 14 of the entire number were under my care, 3 of whom died; 6 of them were under 14, 2 died; the youngest aged 2 years, and the oldest aged 70, both recovered. Only 2 males above the age of 14 were affected, both of them recovered. Two of the women were pregnant; one in the ninth month was delivered of a putrid child, about ten days after her recovery from cholera; the other was in her sixth month, and was subsequently delivered at the full time of a healthy, but small and ill-nourished female child, now strong and healthy enough. At this period the disease was characterised by copious vomiting and purging of rice water, collapse, and suppression of urine; the cramps, through pretty general, were not severe.

The second outbreak of this disease occurred on the 17th of May, and lasted till the 31st, during which period 10 cases occurred and 7 deaths, most of whom were old people, with one or two children. Most of them were under the care of my brother, John Balfour, Surgeon, H.E.I.C.S, who was appointed for the purpose by the Parochial Board.

The disease at this time was characterised by severe cramps. Vomiting and purging not generally severe, and easily checked. The patient, in several instances, apparently recovered, the heat of skin returning, but the tongue and breath continued cold; the pulse did not rally, and the breathing became more and more oppressed till death occurred, which was generally by coma.

THE QUESTION OF CONTAGION.

The first case of the first outbreak occurred at a village connected with the iron-works, on the banks of the Almond, a few feet above the level of the sea, and nearly five miles from Edinburgh, in which city the disease was then raging. No authentic case had occurred in the intervening district, and neither the victim nor her family had had communication with the city for weeks previously; she was a dissipated woman, mother of a family, nursing at the time, and living in a dirty, damp cellar, with but scanty clothing. The second case was the young son of a woman living on the second floor of a house opposite, who, from motives of compassion, had suckled the child of the first victim, yet neither it, nor its foster-mother, nor her own nursing child took the disease. The third case was a younger brother of the second. The next four cases occurred in the same village, one of them being an old woman of 70, who had recovered from an attack in 1832, and was fortunate enough to recover from this one also; she had nursed cases Nos. 2 and 3. The 8th case occurred at Davidson's Mains, forming the solitary one there at that time. The man was a great drunkard, but had no communication with the infected locality. On the same day with him three others were seized at the mills, and another isolated case at Cramond, in the person of a young boy, living in a damp, over-crowded house, and with bowels habitually irregular. The next day, a daughter of the first victim was seized at the mills, and another, a pauper, a little further up the river, in a small hamlet, termed Dowie's Mill, where it proved an isolated case. No case occurred now for four days, when it broke out in a different part of the parish,—at a cottage on the farm of Silverknowes, in the person of a woman, who bore an indifferent character, and had just returned from a drunken ramble of several days' duration. The day after this a woman was attacked at the Burnside, a cottage about ten minutes' walk from Silverknowes. Two new cases likewise occurred this day at the mills, and another isolated one in a cottage standing alone in a field in West Pilton. The disease now ceased for twelve days, when it again broke out in a cottage at Silverknowes, away from the one first attacked—indeed, standing alone. Four days afterwards a child was seized in the same house, and three days after that a woman was seized in a cottage on the neighbouring farm of Lauriston; and four days afterwards the last case in the parish at this time, occurred in a cottage standing alone on the sea-shore, a full mile from any other habitation. This case occurred on the 20th December, 1848; and for nearly five months no case had occurred in the parish; indeed, so far as I am aware, there was not a case in Scotland when, on the 17th May, 1849, two cases occurred in Davidson's Mains. The first was a woman who had not been from home, nor had any stranger near her. She had been engaged in washing the previous day, but only the ordinary clothes of the family. Went to bed in perfect health, and was attacked about one a.m. with profuse diarrhœa. The second case—a boy—was seized within a few hours of the first, there having been no communication. The third case was a woman at Lauriston farm, about half a mile from the village. There had been no communication, but she had been in bad health all winter. The fourth case was a man who assisted the husband of the first victim to carry out the coffin; (a) but he was a dissipated man, had been drinking all the Saturday night, and followed up the funeral with a debauch; he took ill on the Monday morning, and died that afternoon. The next case was a daughter of the woman formerly ill at Burnside, a quarter of a mile from Davidson's-mains, through which she had, the day previous, passed and re-passed, on her way to and from Corstorphine, where she had eaten several apples. She had also just recovered from measles. For five days there were no cases. Then two more occurred in Davidson's-Mains; and, on the following day, other two. It ceased again for three days, when the last case occurred, which, I trust, may be indeed the last in this parish.

My brother, in his Report to the Parochial Board, states, that, "in the village of Davidson's-Mains, with one exception, and that but a slight case, the disease was confined to the north side, and chiefly to the centre of the village, where the houses are crowded by smaller ones behind; a dirty drain, or, rather, gutter, runs in front; while dung-heaps, offensive privies, and other nuisances, were, in too many instances, close to the doors. Some of the houses—perhaps all—were overcrowded, and some possessed no means of making a thorough draft even during the day, while, during the night, the foul air and effluvia from the bodies of the inmates must have rendered the atmosphere sufficiently pestilential." He also adds, with respect to the house at Burnside, which has been attacked by cholera every time it has been in the parish,—viz., in 1832, in 1848, and again in 1849,—that "the well there is very bad, level with the burn which carries down all the filth of the village,—Davidson's-Mains,—and only separated from it (if so at all) by a single row of stones." This said burn also flows past the cottage at West Pilton, in which the solitary case of cholera appeared. The cottage by the sea-shore at Lauriston has also a bad drain in front, and a bad well.

In conclusion, I may add, that the breaking out of the disease in this parish could, at neither period, be ascribed to contagion; that it attacked individuals living widely separate, sparing those in constant communication, except when they were otherwise susceptible, as from bad nourishment, recent dissipation, previous illness, or fatigue from watching, &c. Even in the iron works, where the most of the cases occurred, it jumped from house to house, attacking those who scrupulously avoided all communication with the sick just as freely as those who did not do so. Consequently, its spread could not be ascribed to contagion; and, even in those cases which looked most suspicious, the *varying periods which elapsed between contact and seizure* seemed to point to the agency of other causes than mere contagion. Almost all the inhabitants of the village where it first broke out, are dissipated. The village itself was very dirty, and the houses, especially those in which the disease first occurred, very damp. I may call all very much over-crowded, and, although the existence of local morbific agency could, in most instances, be only vaguely pointed out, still, in others, we had, in the pre-existence or post-occurrence of other zymotic diseases, more conclusive evidence. As in the cottage by the sea-shore at Lauriston, (a mile from any other habitation), the old couple residing in it had both suffered from typhus two months before, and a girl staying with them was only convalescent from small-pox. The old woman had not been out of her own house for three weeks previous to her death from cholera in December, 1848; and, when the disease returned in May, 1849, the old man was seized with premonitory diarrhœa, in which stage it was checked. The cottage in West Pilton, in which a solitary case occurred in December last, has scarce been free of disease since; a case of confluent small-pox having begun the round. Again, the cottage at Burnside, which has been thrice attacked is far from being healthy; all the diseases occurring in it present an erisypelatous tendency. Each time that cholera occurred in it, the other inmates had all more or less of diarrhœa,—and the last time a case of erisypelas of the face occurred three days after the death of the cholera patient. This house also shows the part played by foul air in localizing the epidemic. It consists of two dwellings, the westernmost of which suffered most severely in 1832; but now, being inhabited by a young couple with but two children, it has wholly escaped,—while the eastmost one, being inhabited by a large family,—neither house possessing means of ventilation,—has suffered severely.

A striking example of local morbific agency, assuming the appearance of contagion, occurred in a house forming part of one of the old-fashioned circular steadings, with a dunghill in the middle, in a policy in this neighbourhood. Last autumn, first one case of dysentery and then another occurred, till all the inhabitants—three in number—were seized; two of them died. Almost every one who entered the house had more or less of diarrhœa, and all who stayed a night in it took dysentery. Two women, who had been engaged as nurses, were, to the no small horror of the inhabitants, removed to their houses in the village, where one of them subsequently died of a most virulent form of the disease, in a small ill-ventilated house, where the stench was horrible; and, though well watched and cared for night and day, not another case occurred; while the *origo mali*, the bad dunghill, having been cleaned out, its bed washed with lime, and not suffered to re-accumulate, the house primarily attacked has since then remained healthy. As a contrast, I may mention, the cholera nurses in Manchester, in 1832, who were, at first, worked six hours and allowed to go home other six, the mortality was so bad amongst them that there were fears of the supply failing, it was found that they spent their leisure hours in rather too jovial a manner; they were, consequently, afterwards confined to the Hospital, and not a fresh case occurred amongst them, and

(a) The corpse had been kept from a Thursday till a Saturday, in defiance of the authorities. The husband locked the door in the face of the County Police officer, alleging, as his reason for refusing compliance, that he had issued cards of invitation, and did not like to disappoint his friends. He was tried before the J. P. Court, convicted, and fined.

only two relapses. The whole question of contagion, therefore, appears to require a careful consideration of all the collateral circumstances; and very great caution should be exercised in giving any opinion involving even a consideration of its possibility, the very occurrence of the disease being productive enough of panic without that.

Treatment.—In the premonitory diarrhœa, pills containing three grains acetate of lead, and one of opium, were given. Two at first, if the case were severe; if not, one only, and repeated in three or four hours, according to urgency. This continued for a-day was generally sufficient, any remaining looseness being easily checked, by a drachm of electuary of catechu (made with sugar instead of treacle) thrice a day.

When vomiting or collapse had already occurred, the following mixture was prescribed for an adult:

℞ Tinct. op., ℥ss.; tinct. zinzib., ʒij.; aq. carui q. s. ut ft. M. ℥iij.

A table-spoonful every half hour till vomiting cease or sleep occur.

For children a similar mixture, containing only a drachm to the ounce was prescribed—a teaspoonful for the dose. One or two doses were generally sufficient to stop the vomiting, and bring about re-action. One man, a confirmed drunkard, took ʒvi. laudanum before it took effect. In him, its use was followed by severe headache; in one or two cases, when even the above mixture seemed too stimulating or irritating to the stomach, a mixture of the laudanum with plain water was used with the best effects; in cases where the collapse seemed confirmed, a dose or two was generally given by way of trial; the chief reliance was placed in the powers of Nature, aided by hot turpentine fomentations, and almost total abstinence from all ingesta, a little cold water being occasionally allowed to wash the mouth with, or more rarely an effervescing draught. This abstinence seemed, more than anything, to relieve the constant and fatiguing retching. So soon as the fluid vomiting became tinged with bile, creasote acted as a specific, and calmed the stomach at once, in doses of two drops, with a little vinegar in cinnamon water, repeated every half hour, if necessary.

After cholera had fairly set in, no treatment was used to check the diarrhœa; and, perhaps, partly to that, and partly to the omission of stimulants, was owing the fact, that only in one case was any special treatment required for re-actionary fever, and in that case its excess was due to the abuse of stimulants by the patient after her recovery from a smart attack of cholera, and cost her her life. No diuretics seemed productive of any benefit, time and mild diluents being by far the most beneficial. A case of partial anasarca coming on after cholera, and remaining some time, was removed, like a charm, by an alkaline bath.

The best mode of applying heat was found to be turpentine fomentation and hot bottles. The sheet dipped in hot water was tried, but did not answer so well, one of my patients being nearly carried off by a secondary bronchitis. Stimulants I have found to be worse than useless, positively injurious, except at the first. Opium, I conceive, acts by virtue of its narcotic power. Every case in which I could produce the physiological action of opium recovered at once. One case seemed to me to show plainly, that it was not only *post*, but also *propter*. This was a little fellow of about two years of age, who was partially collapsed. He had got about fifteen minims of laudanum, in two doses, when the vomiting ceased, and he fell asleep. All the symptoms of collapse disappeared; the pulse became full; the cheeks became rosy; the blue lips and dark circles round the eyes gradually recovered the hues of health; but, after an hour or two, he woke up, and back came the collapse. A single dose set him asleep again, and from that time he progressed steadily.

I lost, in the first epidemic, but three out of fourteen. Only two of the second were under my charge, of whom one recovered. The only other two that did recover were cured by this treatment,—a large dose of laudanum early enough. The great error is in temporizing. It is only at first that absorption takes place; after that ceases,—which varies with the severity of the epidemic,—the less done the better. All hope of *cure* is past; and the milder the remedy, the more chance of success, as interfering less with nature. Hence the great success of lime-water and milk, weak saline solutions and *homœopathy!*

ON THE SECTION OF STRICTURE BY THE PERINÆUM, WITH CASES ILLUSTRATIVE OF ITS ADVANTAGES.

By HENRY SMITH, Esq.

In the following observations which I shall have to make, I do not pretend to bring forward anything new, or to propose a remedy which has not been hitherto employed for the cure of certain forms of stricture and its complications; at the same time, it is my wish to call attention to an operation, respecting which there is at present much difference of opinion, and I may also say, great misapprehension.

I am fully aware, that the method of treating impermeable strictures of the urethra by the perineal section is resorted to by some surgeons, both in this metropolis and in the provinces; yet, from consulting the works of those who have written upon stricture, and conversing with my professional brethren, I am led to believe, that the advantages accruing from this proceeding are not generally known; that its difficulties and dangers are much over-rated; consequently, that other measures of treatment are not unfrequently resorted to, which certainly have the semblance of safety and efficacy, but are more tardy and less decisive; therefore, in such cases which really require the quick and bold interference of the surgeon, more dangerous. It must be confessed that it is much more satisfactory, and it redounds more to the credit of the surgeon, if, by the patient and skilful employment of the catheter, he can overcome and treat with success an apparently insuperable stricture, than if, by a well adapted cutting operation, he may bring about the same result; and there is little doubt that the majority of the most severe forms of stricture may be thus successfully cured; so far is this true, indeed, that one, judging hastily, would naturally express wonder on reading the various works which have been written on the subject, and seeing the ingenious instruments which have been devised by surgeons—French, English, and American—for cutting through strictures of the urethra. But that surgeon who has seen this disease on an extensive scale, and particularly in that large class of poor, neglectful, and neglected people, who are the inmates of, and the attendants upon, our large hospitals and Dispensaries, will be obliged to confess that, every now and then, he meets with instances in which his ordinary resources will fail him, and where he will be obliged to lay aside the catheter for a more formidable instrument, and call into action his greatest self-command, skill, and ingenuity.

It is true, that one of the greatest surgeons that ever adorned the Profession in this country, and who has only lately departed from amongst us, used to make a boast that he was never foiled with the catheter, in the worst stricture, and that he considered all other measures but the use of the catheter as barbarous; yet, granting this, it is no reason why the use of the catheter should always be the least dangerous, or the least barbarous mode of practice; for we know that by force an obstruction may always be overcome in some way or other with this instrument, and that it may be pushed anywhere; but the mere getting a passage through such obstruction, or into the bladder, does not necessarily constitute either a successful or safe practice. There can be no doubt that cases are constantly occurring where a surgeon may overcome an apparently insuperable obstruction by the catheter alone, and, as he thinks, with success; but, unfortunately, a *post mortem* examination will show him that it would have been better for his patient had he resorted to a different mode of proceeding, although it may have *appeared* more dangerous and cruel.

It should be recollected that Mayern, the surgeon of Henry IV. of France, finding all other means fail, forcibly perforated a stricture, on the person of his illustrious master, with complete success; nevertheless, this bold surgeon was considered worthy of censure by the Faculty of Medicine of Paris, "propter temeritatem et ignorantiam."

The operation of opening the urethra from the perinæum is applicable to various conditions of disease of that canal; but it ought not to be undertaken until all other measures have been tried which are free from the difficulties and dangers which surround this proceeding; for although these are much overrated, yet they are not to be thought lightly of, and it may be well just to take a glance at them. In the first place, let us call to mind what is the condition of the parts we have to operate upon, and how far different they are from their normal condition. Usually, it is only in those instances where no instrument can be passed into the bladder that the surgeon employs this proceeding; and what obtains here? The continuity of the canal is destroyed, a portion of the urethra is one firm mass; in fact, a mere fibro-cartilaginous degeneration; the soft parts around are completely changed in their texture, indurated and thickened from the continual irritation of the urine which has deviated from its natural course, and made other and more convenient passages for itself. In such a state of things, it is difficult to discover the continuity of the urethra; and unless the surgeon possess patience and skill, he may carry his knife anywhere but in the right direction, and serious and even fatal mischief may be produced.

This, however, is the dark side of the picture; for the beneficial results of this proceeding when properly employed are incalculable, and every surgeon who has watched half a dozen cases will admit it. As far as my own limited observations have led me to judge, there are few operations which, when judiciously put in force, give such striking relief, both temporary and permanent, as the one under notice. I have seen the timely performance of this operation snatch the patient from the most dangerous condition, when other measures have been of no use. I have also seen those who have suffered for years, and have been brought into a wretched condition from the existence of impermeable stricture and its consequences, rendered strong and happy people in a few weeks after it has been put in force; and, moreover, I have seen in more than one instance the fatal effects of neglecting this measure.

There are three forms of disease in which this operation will be found to be necessary. The first and most common is where stricture of the entire substance of a portion of the urethra exists, has existed for perhaps ten, fifteen, or twenty years; has been neglected until at last no instrument can be got through, unless by forcing; and in consequence of which, ulceration has taken place behind the diseased part, and confirmed perinæal fistulæ have been formed. In this state, the patient is brought into a wretched condition; he suffers excruciating pain whenever he attempts to pass any urine, which only comes away in a few drops by the natural passage, or perhaps entirely passes away through the false openings in the perinæum and scrotum. He is in a constant state of filth and annoyance from the dribbling of the water, and ultimately his frame becomes shattered by the continual irritation which it is sustaining night and day. This picture is not overdrawn; any one who has paid much attention to this class of disorders will recognize it.

If the patient applies in time, and even the smallest instrument can be passed, a cure may be brought about, after a shorter or longer period, without the employment of the knife, except so far as to lay open the fistulous openings; but where no instrument can be insinuated through the obstruction, the mere division of the sinuses will be of no use; the cause still remains untouched, and the patient's condition becomes daily worse, until he is glad to resort to any measure for relief. The following quotation from the celebrated Le Dran gives a much better picture of such a case than any description of my own can give. "Let us suppose now, that the urethra is become so

callous and contorted, that it is absolutely impo sible to introduce a bougie. In this case very litt urine passes through the penis, and the callositie and fistulæ are numerous. I have sometimes see the scrotum so loaded with callosities, that, togeth with the perinæum, it appeared but one lump o them intermixed with fistulous holes. The mor callosities there are, the more the passage of th urine is obstructed, and the patient, probably, wil soon die under such circumstances;" then he goe on to say, "The means of removing this disorde is by one or more operations;" after which he de scribes a case in which he operated with success.

The results of the proceeding in such a case a this are extremely gratifying, if due care be taken to secure proper attention to the after-treatment. The immediate relief is striking; in consequence o a direct opening being made; the urine come readily away, and the patient is freed, almost a once, from the miserable symptoms he has been labouring under; in a short time, his health improves, the wound gradually heals, and the urethra canal is perfectly re-established. The following case illustrates the benefit of this operation in such circumstances:—

J. L., aged 43, a native of Devonshire. Twenty-five years since he had gonorrhœa; five years after this had symptoms of stricture, which, however, he neglected for a time. Seven years ago, he applied to a surgeon, who attempted to pass a catheter, but did not succeed. Several others tried, but with the same success. Since then he has suffered from occasional attacks of retention of urine, and endeavours have been made to pass an instrument; but none could be passed until the beginning of the present year, when a small catheter was with difficulty introduced. He at this time suffered dreadfully from pain and irritation. Soon after this an abscess formed in the perinæum, which became a fistulous opening, through which all the urine escaped. His surgeon attempted to pass the catheter, but vainly. The symptoms then increased; he was unable to sleep, from the constant irritability of bladder; to use his own expression, "he was so bad as to wish himself in the grave." He had continual rigors and night-sweats; and his health was so far reduced, that he could scarcely walk. In this condition he was sent to King's College Hospital, under Mr. Fergusson, in the early part of June.

On his admission, he was found to be in an extremely weak condition, and undergoing severe suffering. A stricture was discovered at the bulb, through which it was found impossible to pass any instrument; no urine came through the natural passage, but the whole of it passed through the opening in the perinæum, which was in an inflamed and thickened condition.

The patient was placed under a proper regimen, and attempts to pass a catheter were made, but they were useless; seeing, then, the condition of the patient, Mr. Fergusson determined to cut through the stricture, and to lay open the fistulous tract freely.

The operation was performed, June 16th, in the following manner:—a catheter was passed down to the stricture, the fistula was laid open, the knife was then carried down to the urethra upon the catheter, and the stricture was divided from before backwards; the catheter was then gradually carried onwards until it reached the bladder. Considerable difficulty was experienced during the proceeding, in consequence of the length and firmness of the stricture.

The patient suffered very little uneasiness afterwards; the instrument was allowed to remain in for five or six days, and another of gum-elastic was introduced and changed from time to time, a larger one being gradually substituted. At the end of a month the incision had greatly contracted, and a full-sized instrument could be introduced. His health had much improved, and in another fortnight the urine all passed by the urethra, and he left the hospital, telling me that he should be ever grateful to Mr. Fergusson for the great relief he had obtained, and stating that his health was better than it had been for several years.

I relate this case, as it is most fresh in my memory. It is an instance of a man who had bee suffering for many years from stricture, which ha arrived to such a degree, that no instrument coul be passed, and when the patient was reduced to miserable condition; yet, by the performance o this operation, was speedily restored to a state o health such as he had not enjoyed for years. Thi was, however, not nearly so severe an instance a I have before seen, where fistula in perinæo ha existed, and where the same proceeding has been attended with great success. I could relate such cases if it were necessary to do so; but, I shall no proceed to consider the operation as applicable to another form of disease, and shall relate a case illustrative of it.

We sometimes meet with cases of stricture o long standing, and which have become impassable to any instrument, where, instead of ulceration o the urethra, and infiltration of urine occurring gradually, a more sudden and more dangerous condition obtains—no fistula, no abscesses have existed before, but the canal behind the stricture gives way; infiltration takes place, abscess forms, and the patient is placed in great danger from the constitutional symptoms. I am not here speaking of those cases, where the whole of the scrotum and inguino-lumbar regions be come involved, and where rapid disorganisation occurs; but, where the accident is more limited, and the suppuration more circumscribed; yet serious consequences will ensue, if proper treatment is not quickly applied. In such an instance, a free incision being made in the perinæum to permit the exit of urine and pus will give relief, but only for a time; for the stricture being impermeable, the urine will come away into the perinæum, and fresh inflammation and suppuration be excited within a short period. The only treatment which will be quickly and efficiently productive of relief consists in cutting through the stricture; by this means a twofold object is gained, the present mischief is relieved, and the origin of it also removed. The following case admirably illustrates this.

Joseph P—— has had gonorrhœa eight times. Twelve years ago, whilst sailing with the late Admiral D'Urville on his voyage of discovery, he first had symptoms of stricture, for which he was treated by the surgeon of the vessel. After his arrival in England he was also treated by various surgeons, but unsuccessfully. His stricture became very bad, and about a year and a half ago he was seized with retention of urine, when Mr. Fergusson saw him, and with great difficulty introduced a very small catheter. Subsequently to this he suffered much, having occasional attacks of retention, and ordinarily his water only passed in drops. In the beginning of last winter he was seized with what was thought to be fever; a few days after, however, it was discovered that he had matter in the perinæum and groins. This was let out by incisions, and the patient rallied from an almost fatal attack of irritative fever.

After this he went to his work again, and remained tolerably well for about a month, when he was again seized with a retention of urine, accompanied with great pain in the perinæum. He was brought into King's College Hospital, when a catheter was attempted to be passed, but vainly; he was relieved by the urine coming away drop by drop. On Mr. Fergusson's visit, he attempted to pass a catheter, but he was unable to do so; the patient was much depressed; he had a dry tongue and quick pulse; it was evident that there was matter in the perinæum, and that something effectual should be done in order to relieve the present condition of the patient and prevent future danger. Mr. Fergusson, therefore, cut through the perinæum and divided the stricture, which was long and tough, almost cartilaginous. The contents of an abscess were evacuated by this incision; a good sized catheter was introduced into the bladder. This took place December 31.

Jan. 2.—The presence of the catheter caused so much irritation that it was surreptitiously extracted by a patient in the next bed; it was allowed to remain out.

Jan. 8.—The patient has suffered some pain about the loins and lower part of belly, but the wound is looking well. A No. 8 catheter was introduced with some difficulty.

Jan. 11.—Wound closing, a great deal of urine comes by urethra. No. 7 catheter passed with ease, and retained 1-4th of an hour. From this date the case went on well; the catheter was every now and then passed, until a full-sized one could be introduced with ease; on the 27th the large wound had healed up, and on the 31st, exactly one month from the operation, this man was sent out cured.

I questioned this man particularly more than six months after the operation, and he tells me that he is perfectly well; that he has not had a catheter passed since he left the Hospital, and that he can make water in as good a stream, and with as little impediment, as he ever did at any time before.

This was, without exception, the most satisfactory case, as regards its ultimate termination, that I have ever witnessed, and it is a striking instance of the benefit of this operation, for, in fact, there was nothing else which could have availed him. If the surgeon had waited some days, for the purpose of endeavouring to get a catheter through, the patient would, in all probability, have died under the irritative fever, which had very nearly killed him a few weeks previously. The advocates of caustic might say, that nitrate of silver, or potassa fusa, would have been as effectual or more safe than the knife; but, I apprehend, it would have taken many applications to get through such an extensive and tough stricture as this, and the patient might equally have died in the meantime. Those who use the concealed blade may say, internal section would have been sufficed; but to that I answer, it would not have been possible to get through it at one sitting, and the presence of the matter required that a free external opening should be made.

There is yet another condition of the disease, in which this operation may bring about the very best results. It is generally recommended, and very properly too, that a cutting instrument should only be employed in those cases of stricture where there is an impossibility of passing any instrument through without force. However, this advice should be taken with some reservation; for there are certain cases every now and then to be met with where a small catheter can be introduced; but at the same time, from the circumstance of the entire calibre of a portion of the urethra being affected,—a condition of things which Cruveilhier deems incurable, conjoined with an excess of irritability of the parts, no dilatation can be effected. In such an instance, a dreadful amount of suffering is undergone by the patient, and this is by no means lessened by the useless attempts of the surgeon to dilate the stricture; the consequence is, that he gets frightened, neglects himself, and all the bad effects of his disease, one by one, ensue, chronic inflammation of the bladder, abscess, perineal fistulæ, and general constitutional disturbance, which reduces him to a pitiable state.

If the surgeon attempts to pass an instrument it cannot be borne; and, should he reach the stricture, no dilatation beyond a certain point can be effected; and the question is, what can be done to relieve the patient, and bring about a cure.

The most satisfactory and least dangerous method to pursue, is to put the patient under chloroform, open up any sinuses that may be found in the perinæum, introduce as large a catheter as will enter without force, and there leave it for several days, if it can be borne; a great amount of benefit is to be excited, the irritability will be overcome, and the stricture be materially lessened by the constant pressure of the instrument; and if great care be taken to prevent any urine from coming through the perinæum, all fistulous openings will heal up. One or two striking instances of the practicability and benefit of this mode of treatment have been under my observation very lately.

In some cases of this kind, however, it will be found, that, even if a catheter be introduced, its presence creates such an amount of irritation, that

it cannot be endured; moreover, the excessive sensitiveness of the parts whenever any attempt is made to pass an instrument, combined with the undilatability of the stricture, renders it necessary to resort to some other measure to relieve the dreadful sufferings the patient generally undergoes. The nitrate of silver, or potassa fusa may be used, in some instances, with safety and success, if the stricture is only of limited extent; if, however, the obstruction involves any considerable length of the canal, and the parts around are much indurated, cutting through it by the perinæum will be found a most effectual and permanent remedy.

The following case, well illustrating the method of treatment in this particular condition, occurred in the private practice of Mr. Fergusson, whom I assisted at the operation, and to whom I am indebted for the particulars:—

Mr. B——, an officer in the Navy, aged 50 first applied to Mr. Fergusson in October, 1848. He was then suffering from irritable stricture in the situation of the bulb and the urethra in front of it of many years' standing. Five years previously, whilst in Greece, he suffered from an attack of ague, and ever since that period he has had occasional paroxysms. Three years since he was under the late Mr. Liston, who opened an abscess in the perinæum. He suffered so much from ague, that he attributed the greater part of his condition to this circumstance. On examination, it was found that the stricture only admitted, with difficulty, a No. 2 catheter. The patient suffered excessively from irritability of the urethra, whenever it was interfered with.

After repeated attempts by dilatation, and the use of caustic as well, chloroform was had recourse to, when a somewhat larger instrument was introduced; but the irritability of the parts returned, and the patient had continual shivering fits, and his health was reduced. After giving a month's trial to the catheter, Mr. Fergusson determined to lay open the stricture by the perinæum; and he performed this operation with the concurrence of Sir John Liddle, Inspector of Hospitals, who had had the patient under his observation for some time. A month after the operation he left town; his urethra admitted a full sized instrument, and he had no return of the rigors. Several months after the proceeding, he informed Mr. Fergusson that he was as well as ever, and had no difficulty with his water.

I need not comment on this case; suffice it to say that the operation was eminently successful, after a fair trial had been given both to dilatation by the catheter, and to the caustic.

It is not my intention to enter into a discussion respecting the different merits and advantages of this operation and that of operating with the lancetted stilette. Neither is it my wish to decry this latter proceeding, which is, doubtless, of great service in those unyielding cases of stricture which are met with in the spongy portion of the canal. I have related the preceding cases merely to show with what success this operation may be resorted to when well timed, and carefully conducted.

I need not describe the particular stages of the proceeding, for I presume that all my readers, if they have had no experience of it, are sufficiently acquainted with the directions laid down in surgical works.

The after-treatment is very important, for much of the eventual success of the operation depends upon the manner in which it may be followed up. A case which may promise to do well at first, will turn out badly if great care be not taken in attending to this part of the treatment. It should be recollected, that the canal has been laid open to some extent, and that the re-formation of this canal is absolutely necessary for a perfect cure. In order to effect this, as large a catheter as can be introduced at the time of the operation is fixed in the urethra and there kept, as long as the patient can bear it. In this time the parts will have made a rapid progress towards the healing up of the divided urethra; and the fistulous tracts which may have been opened, will gradually contract. But, for a speedy accomplishment of this beneficial result, it is necessary that the instrument should not be disturbed for several days; and that as little urine as possible should escape by the perinæum. I am aware that some surgeons consider that the urethra will become too irritable to retain the catheter so long. And if they find that much pain is caused by its introduction, they will delay using it, and the consequence will be, that the canal will again contract and the operation will of necessity have to be repeated.

But, in the majority of cases, there need be no fear about retaining the catheter for five, six, or seven days; it is surprising for how long a time even the most irritable urethra can bear it, if the patient will only have the fortitude to suffer the inconvenience for the first few hours. I lately saw an instance where there were perinæal fistulæ dependent upon the most irritable condition of the urethra I almost ever witnessed. It was necessary to lay the parts freely open, and keep a catheter in the urethra; at first the patient suffered terribly, begged and implored us to take the instrument out; but this suffering ceased, and he retained it for a week with great benefit. In another case of an old gentleman with inflamed prostate gland and most irritable bladder, I introduced a catheter, and did not take it out until the sixth day, and then it caused not the slightest inconvenience. Some time ago I was in attendance with an older and more experienced surgeon, upon a case where it was necessary to open the urethra; the catheter was retained for five or six days, and the patient went on admirably; but it was considered that it was irritating him too much, and it was removed, quite contrary to my own wish. The urine no longer found a free passage, irritative fever, of the worst description, set in, and the patient, to my great regret, died before many days.

A gum-elastic catheter should always be used for the first week or two; it should be every now and then changed, until the parts have lost their irritability, and then a silver instrument may be employed until the urethra is fully dilated, and all external openings have closed up. The general health will require continual attending to, and the condition of the urine must be watched and corrected by suitable measures. It will also be necessary, in order to insure permanent and perfect success, to pass an instrument occasionally through the urethra, as there is always a tendency to contract.

In conclusion, it may be stated, that the difficulties and dangers of this operation, are not so great as they are asserted to be by some. It is true that this proceeding, like all other equally severe measures, may be followed by unsatisfactory, and even fatal results; but I can hardly understand the possibility of three or four successive cases being lost from hæmorrhage, as I have been told was the case in one of our hospitals not long ago. A well-known surgeon, during conversation with me on this subject, stated, that the hæmorrhage from this operation was fearful, and made this the cause of objection to it; but I suspect that his experience of this proceeding must be limited chiefly to something he has read of it, or something ideal he has heard from others; for, out of the many cases which have fallen under my own observation, and which I have assiduously watched, no hæmorrhage to cause the least alarm has occurred, and hardly a bad symptom has shown itself subsequent to the operation. In one instance death ensued several weeks afterwards; but here the patient, from neglect on his part, and from previous insufficient treatment, got serious disease of his bladder, from which he sank, he having obtained great temporary relief from the division of an old stricture, which had existed for many years.

13, Caroline-street, Bedford-square,
September 1, 1849.

Metropolitan Burial-grounds.—We are glad to learn, that the Churchyards of St. Ann's Blackfriars, Spafields, St. Botolph Bishopsgate, and St. Thomas, Golden-lane, are to be closed. We hope the order will be speedily extended to other cemeteries situated in populous neighbourhoods.

HOSPITAL REPORTS.

ST. VINCENT'S HOSPITAL, DUBLIN.

[From our Dublin Correspondent.]

CYSTIC TUMOUR OF RIGHT LABIUM.

Mary M'Cerum, aged 40, nine years a widow. Thirteen years ago, which was shortly after marriage, she perceived a very small tumour in this situation. For two years it gradually increased in size until it became as large as a goose's egg, and was very troublesome in walking, and even in the sitting posture. On admission, the tumour of the present size occupied the entire of the right labium, becoming narrower as it ascended towards the vagina, and passing into that cavity; it felt elastic and fluctuating throughout; it appeared to be moveable in the cellular tissue when handled; its coverings, towards the lower and depending part, were palpably thicker than elsewhere, and recalled to the recollection the sensations produced by an old hydrocele. When she coughed a distinct impulse was conveyed through the tumour, to the hand; this impulse was perceptible in every part of the tumour, as well as in the portion of the sac which extended into the vagina. The nature of this tumour was doubtful to some who examined it, and the probability of its being a hernial tumour was even suggested. Dr. O'Ferrall was, however, satisfied that this was not the case: 1st., because the inequality of the tumour consisted evidently in an inequality in the sac itself, while the fluctuation was clearly owing to a liquid of uniform consistence; 2ndly, no pressure could effect a change in the volume of the tumour, or diminish its contents; 3rdly, on passing the finger high up along the tube of the vagina, a boundary could be detected; the tumour, at this point, could be made to swell or enlarge by pressure made below, but it could not be made to proceed further into the pelvis. On these grounds, he felt convinced that the tumour contained, not intestines, but a liquid of uniform consistence. The diagnosis then lay between chronic abscess and a tumour of cystic formation. The mobility of the tumour in the cellular tissue, the absence of adhesion to the integuments, or any process indicating a tendency to point, led him to believe the tumour was a cyst originally, whatever might be the nature of its present contents.

The tumour was punctured, and half a pint of fluid drawn off. This liquid was a brownish fawn colour, turbid, and gluey in consistence. Dr. Aldridge examined a portion of it under the microscope, and found it to contain pus globules, epithelium, and oil-drops. On introducing the finger, Dr. O. Ferrall found the interior of the cyst as smooth as a serous membrane. At the upper part of the labium, and before the sac entered the vagina, there was a distinct constriction of the sac, barely large enough to allow the finger to pass; beyond this point the sac dilated again, and ascended about two inches along the vagina, where it distinctly terminated. This bilocular cyst had no lymph or flocculent coating on its internal surface. It was treated, by laying it open to the bottom by a bistoury, by the application of solid nitrate of silver to the whole lining membrane, and by dressing with lint from the bottom. At the period of this report it is filling up with granulations, and the patient appears to be doing very well, and has suffered little or no pain or inconvenience.

ANÆMIA FOLLOWING RHEUMATISM.

There have been several cases of rheumatic fever lately in the hospital. In commenting on these in the wards, Dr. O'Ferrall stated, that he was induced to believe that this disease had a tendency, in its latter stages, to produce phenomena connected with a diminution of the globules of the blood. Some modifications in the constitution of the blood, during rheumatic fever, had been already observed; it had been ascertained that, at an early period of the disease the fibrine is increased; but it would appear that, subsequently, there is, in many instances, a diminution of the colouring matter. The attention of Dr. O'Ferrall was first called to the subject by observing that, in cases with endo-

cardiac complications, after the employment of depletion and mercury, a cardiac bruit of a different character from that which originally presented itself, continued to persist, notwithstanding the steady employment of the usual means for subduing inflammatory action. By-and-bye, cases terminating fatally came under his observation, in which, although this bruit was present to the last, no morbid appearances could be detected in the heart upon *post-mortem* examination. Afterwards, he found that a râle musicale in the cervical vessels very constantly accompanied this peculiar cardiac bruit; and he was led to suspect, that after the subjection of the inflammation by bleeding and mercury, an anemic condition followed the use of these remedies, which would require a very different treatment for its subdual. He accordingly ordered chalybeates, as in an ordinary case of chlorosis, and found the cervical and cardiac bruits to disappear under the use of this remedy. As yet, he imagined the anæmia to be due to the effects of the antiphlogistic treatment employed in combating inflammation; but during the last few years he has had repeated opportunities of observing, that a râle musicale in the neck, and a bruit accompanying the first sound over the aortic valves, very frequently coincide with the decline of rheumatic fever, in cases where no active and weakening remedies have been employed; and he has been thus led to the conclusion, that the natural tendency of the disease in its advanced stages is to produce a diminution of the hæmatosin of the blood, evincing itself by its ordinary physical phenomena. This observation is one of very great practical importance, teaching us the necessity of discriminating between those cardiac sounds produced by the participation of the heart in the general rheumatic disease, and those arising from deterioration of the blood. The treatment in the two cases must obviously be of a totally different nature.

PROGRESS OF MEDICAL SCIENCE.

FRANCE.

[From our own Correspondent.]

CHOLERA.

The weekly report of the cholera continues to present the same steadiness that it has done for the last few weeks. The number of deaths in the capital for the past week amounts to about 250; but the last day or two has shown a considerable improvement. In the provinces the epidemic is making rapid progress, and there is hardly a Department in France which has not suffered, more or less, from the ravages of the disease. Medical assistance of every kind is forwarded from Paris to those localities which suffer most; but the experience gained in the "centre of science" does not seem to profit much the circumference. The mortality varies from 40 to 50 per cent.; and this has been pretty nearly the proportion everywhere since the commencement of the epidemic. The boasted progress of medicine has not produced any good fruit here. The causes you have clearly explained, in some excellent remarks in a recent leading article; and your observations are just as applicable to the "expectant" school of France as to the polypharmic humbug of English practice. In England, everybody tries everything, and, to increase the chances of a "hit," we have innumerable compounds, administered without principle or science. The sportsman increases the number of his projectiles, to increase the chances of bringing down the bird. The English practitioner seems to act on the same theory, heaping draughts upon pills, like Pelion upon Ossa, in the hope that the mass may contain the sought-for ingredient.

In France an opposite system is pursued. Convinced that medicine has little or no effect on cholera, and not compelled by his position to poison his patients with useless compounds, the French Medical man leaves nearly the whole work to Nature, and appears to have renounced all attempts at arriving at a system of treatment by any series of experiments.

The one error is, perhaps, as great as the other; yet the results are nearly the same. Dame Nature cures as many as the apothecary.

En attendant, there are some who do not despair of finding a *cure* for the malady, led away by the vulgar error, that medicine cures disease, just as an alkali saturates an acid. M. de Rennes, a Hamburgh banker, has left 100,000 francs to any one who shall attain this desirable consummation. The Academy of Medicine at Paris is constituted judge. Indeed, we have not far to go for a successful candidate, if we are to believe his assertions; but, unfortunately, no one can get at him in the dungeons of Vincennes. M. Raspail assures the world, that he can cure cholera, and in the following manner. I extract literally from his last manual:—

'To preserve yourself from an attack of cholera, you must follow the camphor and aloetic regimen; employ a nourishing diet, well seasoned with garlic, pepper, and ginger; you must employ frequent lotions with the camphorated alcohol, or with eau de cologne, and frictions with the camphor pomatum.

"Should the disease attack you, you must continue the above, and a cure will be obtained by the following treatment:—A vermifuge poultice to the abdomen, repeated every quarter of an hour, with strong frictions of the camphorated alcohol, while the poultices are being prepared. Aloes and the vegetable broth are then to be taken, and followed by the tobacco lavement or vermifuge. Every hour fifteen centigrammes of camphor in a glass of tar water; lotions of camphor water on the head, neck, back, and wrists; frictions with the camphor pomade from the neck to the anus; frequent gargling of the mouth with salt and water. When you have pursued this treatment for a few hours, take fifteen grains of crystallized calomel, and some castor oil half an hour afterwards.

"When the crisis has passed over, sedative and alkalino-ferruginous bath, with frictions on coming out. Strong aromatized nourishment as soon as your appetite returns. Salt and water for drink."

I send you the above as one of the curiosities of medical literature; yet the unhappy maniac who produced it is regarded as a martyr by the people, and many a sturdy patriot will assert to you "that Raspail could banish the cholera, if the re-actionists would permit him."

CHEMISTRY OF RESPIRATION.

MM. Regnault and Reiset have published in the last Number of the *Annales de Chimie*, a most elaborate paper on the above subject. The following are the principal conclusions at which they arrive:—Warm-blooded animals, submitted to their usual diet, always disengage a small quantity of nitrogen, varying from 2-100th to 1-100th of the oxygen consumed. When deprived of food they often absorb nitrogen in the same proportion; and this chiefly holds good with regard to birds.

When the diet of an animal is changed, or when it suffers in health from change of its ordinary diet, then it absorbs nitrogen as before.

The relation between the quantity of oxygen contained in the carbonic acid, and the total quantity of oxygen consumed, seems to depend rather on the nature of the food than the class of the animal.

The relation is nearly constant for all animals of the same species, where the diet is perfectly uniform. When the animals are kept fasting, the relation between the oxygen of the carbonic acid and the sum total of oxygen consumed, is nearly the same as when the animal is fed on flesh. The reason evidently is that, in the former case, the animal furnishes for the purposes of respiration its own flesh, which is nearly the same as the flesh eaten in the second case.

The relation between the two sums of oxygen varies for the same animal between 0·62 and 1·04, a fact which overthrows the theory of Brunner and Valentin.

The experiments of our authors also seem to prove, that though the chemical changes that take place during respiration are the cause of animal heat, they are too complex to permit of calculating the heat from the quantity of oxygen consumed, as Lavoisier has done, and as many philosophers of the present day believe.

It is not true, besides, that the excess of oxygen, which is not found in the carbonic acid, serves to convert hydrogen into water.

When the quantity of oxygen is increased in the air breathed, the results are not changed in any notable manner, and the same remark applies to cases where the nitrogen was replaced by hydrogen.

Finally, the authors demonstrate this curious fact, that some hybernating animals (the *marmotte*) increase sensibly in weight during their hybernation, from the mere effect of respiration; but the augmentation is not indefinite, for the animal urinates occasionally.

M. Regnault and his colleague propose completing their observations by a series of experiments on man. M. Valenciennes is engaged on cold-blooded animals. It would appear, however, that want of funds to purchase the necessary apparatus prevents M. Regnault from following up his design for the present, and money is too scarce in France just now, to permit any hope of his obtaining assistance from Government. The truth is, that the affairs of the country are in the hands of a set of adventurers, who think of nothing but "making their hay while the sun shines."

DEVIATION OF THE MAGNETIC NEEDLE.

The Meeting of the Academy of Science, which is ordinarily dull to a most orthodox degree, was yesterday enlivened by a happy reply from Despretz to the note of Professor Pouillet, noticed in a former letter. The subjects in dispute, if you remember, were certain electrical phenomena, which M. Despretz attributed to heat; the Professor to the action of "certain currents of air, whose existence had not been suspected before his time."

M. Despretz, in a few words, exposed the incorrectness of this assertion. Our own countryman, Cavendish, in his learned dissertation on the earth's density, described minutely these currents and their effects; nay more, he employed the very same means as Professor Pouillet for demonstrating their existence and action.

M MATTEUCCI ON THE VOLTAIC ARC.

M. Matteucci, from whom so many important observations concerning electricity have already emanated, has addressed to the Academy of Sciences a long memoir on the transport of heat and light from one extremity of the voltaic arc to the other. A brief analysis of this interesting paper may be acceptable.

The machine employed by M. Matteucci was the common electro-magnetic apparatus employed in medicine. It acts without interruption for two days, with a few elements of Bunsen or Grove, and furnishes a constant series of electric sparks, corresponding to the rapid interruptions of the circuit.

In all his experiments M. Matteucci employed two similar points of the same metal, as the extremities between which the electric spark was to be developed. As soon as the apparatus is set in action, the positive extremity becomes incandescent; on its surface are formed a number of globules of red and melted metal, which fly off, leaving small cavities behind them, and become attached to the negative extremity, where they form little balls.

On bringing the two points of iron into contact, a very beautiful and interesting phenomenon presents itself: a double cone of incandescent lava, giving out a very brilliant light from its centre, is formed with the base of each cone resting on the point of iron, and the discharge of lava continues from the positive to the negative pole.

A diffuse light envelopes the two metallic points, varying in colour with the nature of the metal used, and in every respect similar to the electric light produced by metals.

The light, or flame, is constantly traversed by bright sparks, similar to those produced by hammering hot iron, and the sparks burst outside the electric flame. Finally, a number of very brilliant and moveable sparks appear on the negative extremity. When the direction of the current is changed, this light leaps instantaneously from one pole to the other.

Our author also examines the transport of matter by means of the spark between the two metallic extremities. For this purpose, he employs a point

and a blade of similar or different metals,—making the blade occasionally positive or negative. The results were then carefully examined under the microscope.

In every case there was transport of metallic substance, from the positive to the negative side. The round spot formed on the blade, and is composed of a central part, formed of melted metal transported from the opposite pole. Round the centre we find a circle of a more or less deep colour, according to the metal used. When the blade is positive, the signs of fusion are most manifest, the stains hardly perceptible, and the circle is of a very deep colour; when the blade is negative, the contrary occurs. If a drop of gum-water or spirits of turpentine be interposed between the point and blade, then the drop is soon saturated with a black cloud of the metal in a state of extreme division, and the spot on the blade does not appear.

As to the production of light by the negative pole, M. Matteucci has found that it never occurs without the presence of a platinum point at the positive extremity; the nature of the metal at the negative pole is then a matter of indifference. On the contrary, if the negative extremity be in platinum and the positive in iron, zinc, copper, &c., the fixed light is no longer observed on the negative pole, or very confusedly. As to the cause of the phenomenon, M. Matteucci is inclined to attribute it to the heating of the positive pole, whence a number of incandescent particles are thrown off from the negative.

But it remains to determine the cause of the great inequality of heat between the two poles.

After a series of ingenious experiments, which it is unnecessary to describe here, the Author concludes, that the difference of heat depends, in part, at least, on the alteration of the surfaces,—that of the negative pole being infinitely the greatest.

In concluding his memoir, the Author expresses a hope that he has demonstrated the dependence of the phenomena of the voltaic arc on the transport of matter from the negative to the positive pole. We already know, from the experiments of Porret, that this interchange does not depend on the heat developed by the electric current.

SCOTLAND.

[From our Edinburgh Correspondent.]

We observe, in last Saturday's *Medical Times*, a notice from the Scotch Newspapers, announcing a death from chloroform in Glasgow. Were the subject one in which the interest of the public is less concerned, we would willingly let this newspaper paragraph pass unnoticed; but, as it assumes the character of a proof of the dangerous nature of chloroform, to let it pass would be a sacrifice of truth. The friends of the young man have so penned the notice as to extort a pointed reference to the unfortunate case. We have received assurances from Glasgow that the death was not an accident. The young man was found dead, with the door of the apartment locked, and nothing more is known of the quantity of chloroform inhaled, or of the purpose for which it was used, except what may be inferred from that circumstance.

It was announced in the correspondence from Scotland last Saturday, that the election of an assistant surgeon to the Edinburgh Infirmary was appointed to take place on the 1st of October, the vacancy being created by the expiration of Professor Miller's period of duty as Acting Surgeon. It is competent for the Managers to prolong the Professor's period of service on sufficient reason being shown. Mr. Miller has accordingly applied to them to exercise this privilege in his favour; and if his request be granted, there will be no vacancy. On this point, it appears, that no decision will be given till the 1st of October, the day previously fixed for the election. There are five surgeons to the Edinburgh Infirmary; one of whom, the Professor of Clinical Surgery in the University, holds a permanent appointment; and the rule as respects the remaining four is, that each should serve four years as Assistant and four years as Acting Surgeon, and that after eight years he should be honourably placed on the shelf by being appointed one of the Consulting Surgeons. When this rule is allowed to go on undisturbed—a new Assistant Surgeon being appointed every second year—it works smoothly enough. The Surgeon passes two years in each of four positions; namely, Junior Assistant Surgeon, Senior Assistant Surgeon, Junior Acting Surgeon, and Senior Acting Surgeon. But as the Senior Acting Surgeon enjoys certain advantages over the Junior Acting Surgeon in regard to the number and choice of his patients, and the privilege of giving clinical lectures, it is thought a hardship if by any accident a Surgeon completes his term of eight years without having held the position of Senior Acting Surgeon for the full period of eight years. Accordingly, Professor Miller's plea for the extension of his service is, that, though he has been nearly five years Acting Surgeon, he has been less than a year Senior Acting Surgeon. It is not improbable that the Managers will grant Mr. Miller's request to the extent of another year's service, though such a course tends very much to perplex the rule on which they profess to act in general. To obviate the charge so apt to be made against the Governors of Hospitals of doing things capriciously in defiance of their own rules, it is right intending candidates should take the pains to learn how the matter stands. In 1840 two vacancies occurred at once, and Dr. James Duncan and Mr. Miller were then appointed both at the same time, Dr. Duncan being senior. Two years after a vacancy among the Acting Surgeons occurred, and Dr. Duncan became Junior Acting Surgeon. In consequence of his serving only as Assistant Surgeon, Dr. Duncan in no more than six years from his first appointment, had completed his four years as Acting Surgeon; so that the Managers were induced to continue him as Acting Surgeon a year ago, when he completed his entire term of eight years. Thus, though Mr. Miller has been already attached to the Infirmary one year longer than Dr. Duncan, whose first appointment bears the same date; yet he has served only five years as Acting Surgeon, while Dr. Duncan served six in that capacity, having been four out of these six years Senior Surgeon.

The rule laid down by the Managers is doubtless intended to raise up a succession of young surgeons, by affording, at an early age, to those who have a turn for operating, the opportunities which are only to be met with in an hospital. Still it is not without its disadvantages, as throwing the surgeon off just at the time when his skill has reached the height to reflect credit on the Institution. The extension of Dr. Duncan's appointment as Acting Surgeon to six years, was, perhaps, nothing more than what the strict observance of the rule of the house required for the purpose of enabling him to complete his eight years in office. The particular advantages he enjoyed were rather by accident than by the favour of the Managers. And, if Mr. Miller's present request be granted, it should be expressly stated, that this course is taken not so much for the sake of putting him on an equal footing with Dr. Duncan, as for the purpose of rewarding him for the skill and ability which he has displayed as a surgeon in the Infirmary. On this ground, and not on the plea of right, we believe Dr. Duncan's re-appointment was made.

At the last election there were four candidates, namely, Dr. Richard Mackenzie, who was elected, Professor Goodsir, who we understand declines to come forward again, Dr. Burn Murdoch, and Mr. Struthers. One new candidate is already announced, if the vacancy come to be filled up, namely, Dr. Cornwall.

Edinburgh Royal Infirmary.—A meeting of the inhabitants of Kinross was held there on the 29th ult.,—David Syme, Esq., brother of Professor Syme, of Edinburgh, in the chair,—for the purpose of raising subscriptions for the Royal Infirmary of Edinburgh, the funds of which are in a depressed state. The collection which has been made in Kinross, in consequence of this meeting, already, we understand, amounts to nearly 40*l*.

TABULAR RETURN OF CHOLERA CASES.

The Table of Treatment of Cholera cases, a specimen of which we gave last week, is now ready for delivery; and any Member of the Profession may obtain the same on application at our Office. We cannot engage, however, to send more than one copy gratuitously into the country. Should more be required by any Medical Gentleman, any number may be obtained by enclosing stamps sufficient to cover the expense of postage. The Blank Form is printed to contain numerous Cases on one Sheet.

Complaints having reached us of the irregular delivery of the Medical Times *in the country by the Booksellers and Newsmen, we state, for the information of our readers, that this Journal is always published early on Friday afternoon, so that it may reach the Provinces by post on Saturday morning. Perfect regularity of delivery may be insured by ordering the* Medical Times *direct from the Office, 147, Strand. The Yearly Subscription is paid in advance.*

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THE MEDICAL TIMES.

SATURDAY, SEPTEMBER 15, 1849.

The Cholera Committee of the College of Physicians have just issued another Circular to the Fellows and Licentiates of the College respecting the terrible disease from which we are at present suffering so severely. In this letter, the Committee bring before the attention of their correspondents the chief points concerning which it is desirable that information be collected. They enumerate the several modes of treatment which have been proposed, in order that each of them may, if possible, receive a fair trial, so that "with the co-operation of the members of the College, the Committee may, it is hoped, in some cases, be able to fix the kind and amount of benefit derivable from particular remedies or plans of treatment; they may establish the superiority of some remedies, and, with regard to others, may show that their use ought to be at once abandoned." At the end of their letter the Committee propose a series of very pertinent questions, to which we desire to give as wide a circulation as possible, and have, therefore, elsewhere printed them.

We are most happy to see the College of Physicians coming forward in this way, and we can assure them that in the furtherance of the object they have in view they shall have our most strenuous support. We have always been

of opinion that no other public body would, at the present time, be able, with any effect, to call for, and elicit the experience of the Profession; and we have been equally of opinion that, without such a combined inquiry, either in this or in some other country, Cholera would still remain unarrested and incurable,—the curse of the people, and the opprobrium of the Profession.

But there are still some points to which we should be glad to call the attention of the Committee. And first we would beg them to remember, that the greatest possible accuracy on the part of their correspondents is absolutely necessary. It will not do, that a man shall deal in vague platitudes of what his experience has taught. The first question to every man should be, What is your opinion on such a point? and the second, what are the facts on which you found such opinion? If the facts are not forthcoming, though a Sydenham enunciated the opinion, it would be received with doubt. If the Committee wish really to learn the effects of treatment in Cholera, let them demand the details of the cases; let them have the opportunity of considering these cases, and of determining whether they bear out the judgment rested upon them. Now is the moment for the use of an accurate method of inquiry; if this be not used, we have great doubts whether the forthcoming Report of the Cholera Committee will not merely add another to the long list of books which are read, disputed, laid aside, and forgotten. But an accurate method may elicit information of such value, that the subject of Cholera may be more fully elucidated than any other in the whole range of medicine.

But, secondly, we would ask the Cholera Committee this question, What is it you wish to do? Is it not to come to some fixed and settled decision regarding the nature and treatment of cholera? If so, why restrict yourselves within the narrow limits of your College Lists? Are there no observers except those who have passed through the dusty portals of Pall-mall; no Physicians, who are not Licentiates, whose opinions may yet be worth the asking; no General Practitioners, whose practical knowledge may repay the seeking for? Why should not the College constitute itself the legitimate head of the Profession, as it ought to be, and demand from the whole Profession that knowledge which is literally to be a saving and a healing knowledge? Let the Cholera Committee make known their intentions throughout the limits of the Empire; nay, let them, if they can, gather their subject matter from the whole of Europe, being certain that no pains and no labour will be too great if they can unravel this intricate problem, and indicate to the nation the mode in which it may save its sons and its daughters from this fearful plague.

Thirdly, we would beg the Committee seriously to consider what they have undertaken. They have now pledged themselves to a work of no ordinary kind. When an individual member of a Profession undertakes to elucidate any special point, and fails in his attempt to do so, we attribute the failure to his incompetence, or to his want of opportunity. But when a body, like the College of Physicians, enters upon any investigation, if its conclusions are abortive or erroneous, the reputation of the whole Profession suffers in this error of its leading Corporation. It is a public confession of incapability, and, did we anticipate such a result, we would say to the College, "stay in your course, and enter not on this inquiry, which you are unable to comprehend." But that such an untoward result may not arise, that we may not witness the spectacle of the greatest Physicians of the day baffled and perplexed, we would strongly urge the College of Physicians to enlarge their basis of inquiry, to call on every labourer, not only in our Profession, but in all the collateral sciences, for his contribution, to restrict themselves to no particular set of men for their respondents, but to accept knowledge from every quarter, in the belief that all things that can add to the accuracy and extent of investigation should be sought out and used by them.

"THE EVILS OF ENGLAND."

Some months have now elapsed since the publication of a little work having for its title "The Evils of England, Social and Economical." The Author's object, as told in his preface, was, "to enter a strong and earnest protest against mendicancy under all its disguises; against charities in many of their forms; against Poor-laws in every possible or conceivable shape; and, against all kinds of waste;" and his views were set forth in about forty epigrammatic little chapters, containing many acute observations, not the less striking for the brevity with which they are enunciated. The reputation of the London Physician, to whom the authorship of this work has been very generally attributed, and the high position he holds in the sanitary movement of the day, are such as at once to secure his acquittal from the charge of hard-heartedness, which some thoughtless and short-sighted persons would be very apt to fasten on him in his anonymous character. We are not prepared to yield our assent to all his dicta; but he is evidently in earnest, and we would willingly assist him in promoting discussion on the various important questions which are opened in almost every page of his book—many of the first importance in a professional and hygienic point of view, and hence the prominent place we assign to our remarks. With this aim we propose now to make a few general observations on some of the most prominent topics, reserving to ourselves the privilege of returning to the consideration of all or any of them whenever the press of other matter is sufficiently light to allow us to do so.

Against mendicancy we protest as heartily as the most rigid political economist could wish. We should be very much inclined to vote for a revival of the old law, which awarded an equal punishment to the beggar and to the person who gave him money. But there are too many persons who, while they resist the natural inclination to drop a coin into the hand of the street-mendicant, forget to ask themselves whether this desire to relieve distress cannot be indulged in an unobjectionable manner. Let not the man who has this world's good suppose that the feeling which Nature has implanted in almost every breast, was given only to be resisted. Rather let him seek out real distress and relieve it by the best means,—that is, by enabling the sufferers to learn and labour truly to get their own bread. Except in cases of destitution occasioned by sickness, the mere gift of money is rarely beneficial. In the most deserving cases it is apt to destroy self-respect and self-reliance; and where these qualities have already disappeared, it only makes matters worse. If the rich man will not trouble himself to seek for genuine distress, let him commit a portion of his wealth to those whose duty or inclination leads them to the places where industrious Poverty sits at home and weeps,—rarely, indeed, does she lift up her voice in the streets,—and let him not be solicitous that his name should appear in the columns of a Newspaper, or in the Report of some comfortable Society. This vicarious charity is certainly not of the highest order; but it is, at least, free from evils which result from a blind scattering of sixpences and shillings among the ragged vagabonds and smooth-spoken impostors who now throng our pavements.

We agree with the Author of the little work above-mentioned, that "the patron of beggars is, unconsciously, the friend of thieves;" and we also agree, that a sound flagellation would have a very wholesome effect on both classes: but we can scarcely accept flogging as "the proper punishment for nine-tenths of all our crimes," although we certainly think that it would be less mischievous than *short* imprisonments, and that it might occasionally be found a useful adjunct to the discipline of more prolonged confinement. There are, however, many cases in which it would be more likely to confirm the offender in his course of crime than to tend towards his reformation; and, in such cases, it would be worse than useless. Our Author is careful in stating, that he recommends flogging as a *punishment* only, and that *reformation* "is a very different thing;" we take leave, however, to say, that reformation ought first to be thought of. The expenses of a prison are, indisputably, irksome; but a thief, at large, costs more than a thief in prison,—and the best economy would be to prolong the confinement until there is a fair prospect of the criminal being able to contribute to the "labour-fund," instead of diminishing it. When the term of imprisonment is sufficiently long, the prisoners may, with good management, be made to pay the cost of their incarceration; and it is not impossible that our Author's honest wish, that the thief should also earn the means of repaying what he has stolen, may also be fulfilled. If the state of mind of most of our juvenile offenders be considered, it will be evident that our present system of sentencing them to a short term of imprisonment, increasing the period of confinement on a repetition of the offence, and so going on until the wretched criminal has earned the privilege of being transported, is a wretched mockery of justice. But it would be no less so, to take such an offender and flog him, and then again turn him loose on society. How to deal with such criminals, is a question replete with difficulties. We may re-

turn to it hereafter. In the meantime, we recommend those of our readers who are in the habit of giving their spare cash to beggars, to devote it to the Ragged schools.

And here we are naturally brought to the next subject in the Preface we have quoted, viz., Charitable Institutions;—but these and the Poor-laws—on which our Author pours out all the vials of his wrath—we must reserve for future consideration.

We may mention one kind of waste which the little book does not notice. We mean, waste of good feeling. We are not disposed to sing the praises of "the times of old," and we are most desirous of looking forward with hopefulness to the advent of the "true spirit of the coming era,"—whatever these words may mean; but we see with pain many of the things which are now passing around us in this our favoured isle. There is a fondness for excitement,—an unhealthy longing for sudden wealth, —a disregard of patient industry,—a disposition to neglect our own needy brethren, and to throw away our sympathies on far-off victims of tyranny or superstition, real or imagined;—and, at the same time, our children and our youth are allowed to grow up in a state of brutal ignorance, and the civil war of class against class—the most detestable of all wars—is secretly fomented or openly encouraged. Our industrious poor have too much reason to complain, that crime is a surer passport to public favour than innocence is found to be. It is not long since the paramour of a murderer levied larger contributions on the purses of her countrymen than would have sufficed to fill the dwellings of a hundred poor families with comfort, and her only claim to public gratitude was, that having assisted her wretched partner in his crimes so long as he kept out of the clutch of the law, she was ultimately the means of securing his conviction and execution. Even the excellent Lord Ashley told with some complacency, in the House of Commons last Session, how he was retained as counsel by "a hundred and fifty of the most notorious thieves in London," and how he advised not only these, but a hundred others, as to the best mode by which they might extricate themselves from their miserable way of life. It is true, that the opinion he gave, that in the competition for employment "it was unlikely that a person of tainted character would be preferred to three persons of untainted character" was not flattering to his clients; but did he think that the probability ought to have been the other way? If not, why publish the fact of his having been among the thieves at all? There is scarcely any agent of good which is not noiseless in its operation. Let each man quietly and determinedly labour in his own sphere, in the conscientious discharge of the duties which his station in life imposes on him, or, if he will not do so, let him bear the consequences of his own default. The shameful imputation, that the idle and profligate are better cared for than the industrious and innocent must then speedily cease from among us: the immunity which we have enjoyed amidst the crash of broken thrones and ruined dynasties will be strengthened, and the tongue of the revolutionary agitation will be silent in our land.

DR. JAMES ARNOTT'S TREATMENT OF CHOLERA BY INTENSE COLD.

Among the multifarious remedies suggested in the Medical Journals against Cholera, there is none that has surprised us so much as the proposal to swallow a frigorific mixture to reduce the temperature of the stomach to that of the zero of Fahrenheit. The hair positively bristles on our heads, like so many icicles, at the bare mention of such an idea. We remember the horror which ran through the public mind when the newspapers gave an account, some years ago, of a pedlar having caused several country people to lose their fingers, by advising them, in jest, to keep their hands for some minutes in a mixture of snow and salt to cure warts, or some such trifling inconvenience. The story may be apocryphal, but it sounds like truth. Unquestionably, the common rule of therapeutics has hitherto been, that nothing colder than melting ice or iced water should be applied to living parts. Our Medical works abound in cases of sloughing from the incautious, continued application of snow or pounded ice as a refrigerant to external parts; for example, to the scrotum;—and many of our most recent authorities on the use of cold think it necessary to remind us that snow or pounded ice, owing to the caloric absorbed in liquefaction, is a much more active refrigerant than iced water. Within moderate limits the internal use of ice is, probably, more universally safe than its external application, and the swallowing of ice, and also the enema of iced water are well-established and most beneficial remedies. But, here again we are met by a host of facts, showing that even cold spring water as well as ices in warm weather, particularly when the system is exhausted by fatigue, have often proved either almost instantly fatal, or have caused a fatal gastritis. How, then, on the face of such evidence, are we to believe, that in a disease so exhausting as Cholera, it is either safe or remedial to pour a frigorific mixture into the stomach so as to bring down its temperature to the zero of Fahrenheit, or even to ten or fifteen degrees below the freezing point of water? We have a great respect for the name of Arnott; and we believe the gentleman who makes this proposal is a near relative of the distinguished author of the "Elements of General and Medical Physics;" but even this name fails to carry sufficient weight with it in this matter. There can be little difference of opinion as to the necessity of warning our more sanguine brethren against rashly following Dr. Arnott's recommendation. It is at variance, *primâ facie*, with every received principle of physiology in regard to the relations of temperature to life. It is a proposal wholly new to the practice of medicine, at least from parties of any consideration in the Profession. We profess to believe anything on sufficient evidence—we have no unalterable opinions, unless those truths are called opinions which rest on intuitive proof. But when things are brought forward, in the character of facts, which contradict all our past experience, and all our received views in relation to living action, we require something more than common evidence, before we yield our assent. We must be satisfied, not only of the veracity and good faith of the witness, but that he is not *captus oculis*, and that he has not recently ceased to be *compos mentis;* and, moreover, that he has not only forsworn in intent, but that he practically and habitually abstains from the worship of those idols which, as Bacon shows, so often stand between men and the perception of truth. If our witness come through this ordeal we will believe what he affirms, and, instead of blaming us for our doubts, he will supply us with the means of judging what kind of witness he is, and commend us for being no more sceptical than the occasion demands.

THE OPERATIVE SURGERY OF JOHANN FRIEDRICH DIEFFENBACH.

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(Continued from page 206.)

CHAPTER VIII.
TRANSFUSION.

Transfusio—Transfusio sanguinis—Cura Medeana—Methæmochymia—Transplantatio medica nova.

Transfusion is the operation of transferring blood from one individual into the vascular system of another. It was first practised by me in the case of a man labouring under hydrophobia. He had burning thirst, great intolerance of water and of shining objects, the very sight of which produced the most violent spasms of the muscles of the throat and neck. The symptoms became progressively worse, in spite of the best-directed treatment. Venesection was performed in the arm, and three cupfuls of blood were transfused from the vein of a bystander to replace what had been abstracted. The condition of the patient was at first bettered; ere long, however, the most alarming fits returned. The next day, in consequence of the persistence of the symptoms, the operation was repeated, after which he could drink water without reluctance; an hour later, unfortunately, a severe paroxysm supervened, during which he died. On cadaveric inspection, nothing unusual could be perceived; no traces either of the hydrophobia, or of the transfusion. In some instances of cholera in which transfusion was tried, the patients were icy cold, blue, without pulse, and seemingly near death. It was resorted to in the belief that fresh, warm human blood might, perhaps, arouse the paralyzed action of the heart and its vessels, in conjunction with the exhibition of other stimulants. From the first cholera patient devoid of pulse, two ounces of thick black blood were drawn with great difficulty from an opening in the median vein, by the aid of chafing or rubbing the forearm with the hand; and immediately afterwards five ounces of fresh-drawn blood injected at three successive intervals. A few minutes after the first injection, slight clonic spasms came on. Six minutes later, on the second injection being made, a deeper breath was taken, the previously dilated pupils contracted, and the eyes acquired more lustre. After the third injection, the pulse was felt faintly vibratory; the axillary artery which beforehand was motionless, afforded regular pulsations, with a rhythm of from 55 to 58 beats in a minute.

In the course of half an hour the last agony commenced as is wont in cholera patients, nowise altered in character through the act of transfusion; cadaveric examination revealed the blood coagulated in the heart and great vascular trunks. In a woman, aged sixty-five years, assailed with cholera asphyxia, whose veins were empty, and whose opened brachial artery was bloodless, fresh human blood was transfused at two intervals and within twenty minutes. At first merely alternate dilatation

and contraction of the pupil could be perceived; next a return of pulse in the brachial, and, subsequently, in the radial artery. After the second injection, from fifty-five to sixty beats could be told in the minute, and, ere long, pulsation could be detected as far as the elbow of the left arm. In five or six minutes these equable pulsations ceased, and here and there, in some of the large arteries, solitary beats were alone observable. Two hours having elapsed, the patient died without any cramps. After death, dark grumous blood and gory fibrinous clots were found in the heart and principal vessels; in the pericardium some serous fluid, but no evidence of transfusion having been performed. In the third case, of a patient, aged sixty-one years, blue, and without pulse, suffering from dread of suffocation, I opened several vessels, but obtained no blood. I then incised the axillary artery; it was perfectly empty, and on both sides you could look into the open gap. From the axillary vein I then procured, by dint of rubbing, a few drachms of thick black blood. After the first injection into the median vein of blood directly drawn from an individual, alternate dilatation and contraction of the pupil were observed, as also a faint vibration in the radial artery. No change followed the second injection; but, after the third, the pulse was stronger in the right than in the left radial artery. About three ounces of blood in all had been introduced. The pulse presently ceased, and death ensued amid the usual phenomena. The pathological appearances were the same as in the preceding case.

As far as the operation was concerned, little more could have been expected, considering that the disease was in that advanced stage in which the blood was already coagulated in its vessels. On the other hand, it might possibly be resorted to with some prospect of advantage in cases of a less desperate character.

The importance of transfusion is to be estimated rather in a physiological than in a pathological point of view. When employed as a means of resuscitation in moribund subjects it proved of no avail; in healthy persons, afflicted with insanity, it wrought no change.

The results of numerous trials, instituted by me, differed from those of most other experimentalists, although coinciding, in many respects, with those of Prevost and Dumas. The following points merit attention:—

Mammals, exhausted by bleeding, could be directly restored by transfusion of the blood of another animal of the same class, provided the operation were executed in a skilful manner, and neither air nor clots allowed to enter. Arterial blood restored suspended animation rather sooner than venous blood. In no instance did the animal ail after the introduction of either kind of blood, especially when less was transfused than had been withdrawn. When, again, a surplus quantity was injected, the animal seemed inactive and uneasy during the operation, and occasionally voided urine and fæces.

The phenomena were the same after the immediate as after the mediate transfusion by means of a syringe. Blood exposed during several hours to the air, of which the fibrin was removed, or kept liquid with caustic soda, was equally efficient with blood recently drawn.

The usual appearances, during the procedure, were alternate dilatation and contraction of the pupils, then hurried breathing; the pulsations of the heart and arteries were at first slower, eventually quicker, than natural. Alvine discharge frequently occurred; rarely, bloody urine. In the case of disorder, even of a dangerous character, following the operation, health was speedily re-established with an attack of muco-sanguinolent diarrhœa, where either too much blood, or else blood of a different animal had been transfused.

The latter produced, likewise, a quickening effect, but the animal suffered always afterwards. Giddiness, troubled respiration, palpitation of the heart, beating at the sides, intermittent pulse, at first diminished, then augmented temperature of the body, pale, sometimes dotted tongue, swelling of the belly, and death were noticed. On cadaveric inspection, dropsical effusions were discovered upon all the serous membranes, flabbiness and paleness of the heart, and dark spotty coloration of the lungs.

Graminivorous animals were less affected with the blood of carnivorous animals than inversely. Dogs mostly perished when resuscitated with sheep's or other blood. A very little strange blood made them ill. Hæmaturia followed only artificial plethora; namely, when more blood had been introduced than withdrawn. Among the mammals, cats were by far the most susceptible to strange blood, and died from a few drachms with manifest torture. Young suckling animals, which are generally little sensible to injury, were killed with a few scruples of other blood. A whole litter of kittens died in this way through dropsical effusion of all the serous membranes.

Transfusion influences the innermost vital processes, and is for this reason very hazardous. A single ounce of bird's blood injected into a large sized mammal proves fatal; and a bird itself, as for example, a pigeon, is destroyed with a few drops of mammal's blood, amid the phenomena of poisoning with hydrocyanic acid, so soon as it gets into the circulation.

The blood drawn from animals poisoned by narcotic substances introduced into the stomach produces no peculiar effect. It rarely happened that diseases, such as those of an impetiginous nature, were communicated to healthy animals by sanguineous transfusion.

It would be out of place to enter into further details; but I would refer the reader to the writings of Burdach, Mueller, and Magendie, where the most recent information on this subject will be obtained. As a therapeutic measure, transfusion is to be recommended in hæmorrhage, as enjoined by Schœnbein and Marcinkowsky. It is also deserving of trial in the instance of apparent death, as suggested by Blasius; but, of course, only *mediate* transfusion. The *immediate*, which can only take place from an artery into a vein, ought never to be attempted in the human subject.

Mediate transfusion is to be performed precisely in the manner described under the head of infusion in the preceding chapter. The vein is to be exposed by an incision through the skin, the cellular texture removed, a couple of threads placed loosely round the vessel which is to be opened between them, a canula inserted, and the blood, as it flows from the arm of another person, received into a warm vessel, taken up with a warm syringe, and slowly injected. After one or two ounces of blood have been thus transferred, the operator must pause. The total amount should not exceed six ounces.

The English surgeons, after Dr. Blundell's example, employ the stomach-pump of Reed; but this offers no advantage over an ordinary syringe.

During the operation special precautions are requisite to prevent the entrance of air into the vein. Accordingly, before the short nozzle of the syringe is introduced into the canula within the vein, a little of the blood ought to be squirted out, and the contents of the syringe only partially discharged, lest a clot be transmitted.

After it is finished, the threads surrounding the vein are to be withdrawn, the arm laved with tepid water, then dried, and the edges of the wound kept together with adhesive strips, surmounted by a compress and roller.

REVIEWS.

First Principles of Medicine. By ARCHIBALD BILLING, M.D., A.M., F.R.S., &c. &c. The Fifth Edition. Revised and Improved. London: S. Highley, 32, Fleet-street; Maclachlan and Stewart, Edinburgh; Fannin and Co., Dublin. 1849.

Since the days of Cullen, we have made considerable progress in what may be called rational medicine. We apply the term Rational Medicine to the system or method of investigating disease in use at the present day, and which differs essentially from the plan followed by the older physicians.

We are not content with a mere acquaintance with the history of a disease, and the remedies that have been recommended for it; we carry our inquiries much further; we try to discover in what the departure from the healthy standard consists,—whether we have to deal with organic changes or functional derangement, and, in applying our remedies, we seek to explain the manner in which they act, and why they are useful; so that, in undertaking the duties of a physician, we require to be well grounded in, and thoroughly understand, what Dr. Billing very properly calls, "The First Principles of Medicine."

We are indebted to a want, experienced by the Author himself, for one of the most useful medical works that it has ever fallen to our lot to peruse,—a work which has been spoken of in the most flattering terms, and which, we may add, has not received greater praise than it justly deserves.

No one who, like Dr. Billing, has felt the want of a correct system on which to base his practice, will undervalue the great service he has rendered to the Profession, in publishing these principles, which, to the young practitioner, must prove, indeed already have often proved, of inestimable value, and which will enable the more advanced practitioner to understand many things that were before unintelligible, and by the aid of which the reasoning physician will often be able to comprehend and grasp ideas that flashed upon his mind, but which, like the visions of the night, were indistinct and transitory.

Dr. Billing commences his work by stating certain admitted physiological facts; or, where he differs with the generally received opinions, he explains his own views; on this basis he then proceeds to show the true nature of pathological changes and the action of remedies, and discusses the nature of inflammation, fevers, &c. &c. He does not enter at any length on the consideration of special diseases, as he merely proposes to treat of the principles of medicine; but we may say that, whoever thoroughly masters these principles, will have learned no small part of what pertains to the practice of medicine as taught in the more systematic works on the subject.

"Many persons of great experience practice moderately well, empirically, without much brains or reasoning; but he who begins upon principle, and then profits by experience, must become a much more skilful Practitioner."

Our Author's views on many physiological and practical points are so well and clearly expressed, that, instead of altering or compressing his words, we will, so far as our limits allow, prefer making such extracts as we think sufficient to explain his meaning, necessarily, however, omitting much that is interesting; for, were we to insert all that we thought valuable, we would transfer the entire work to our pages.

"Arteries are endowed with the power of contracting on their contents so as to continue full when a considerable quantity of blood has been lost, either by hæmorrhage or artificial means." "The contraction of the heart is *muscular*; of the arteries, *elastic*. The heart contracts and *relaxes* alternately. The arteries keep up a constant *contractile pressure* on their contents; not as has been commonly supposed, an alternate contraction and relaxation, but a continued contractile effort, both longitudinally and transversely, which is overcome by the action of the heart:" "owing to this contractibility the arteries are always full. The elastic contractile force of the arteries is merely to regulate the motion of the blood, whereas the propelling power is the contractile force of the heart."

"The nerves are whitish threads, which are distributed to every part of the frame, however minute;" "they impart sensation, and direct action, and supply to *all parts nervous influence*, which excites *action*." "A variety of circumstances lead us to the conclusion, that the nervous influence is analogous to, or depending upon, if not identical with, the electric principle or fluid, whatever that be."

"Heat is extricated all over the frame; in the capillaries, by the action of the nerves during the

change of the blood from scarlet arterial to purple venous; and also, while it is changing in the lungs from purple to scarlet," "there is a perpetual system of deposit and decomposition carried on by the capillary system; carbon is continually disengaged, which mixes with the blood." "This decomposition being effected by the agency of the nerves, produces constant extrication of caloric. Again, in the lungs that carbon is thrown off and united with oxygen, during which caloric is agree set free." Animal heat is thus kept up, "evaporation of perspiration keeps the surface cool; but, in inflammatory fevers, where this is *deficient*, the body gets too *hot*; and, in low fevers, when the nervous influence is not sufficient to keep up the full fire, the surface gets cooler than the natural standard. This is peculiarly evident in the beginning of eruptive fevers, as scarlatina, where there are strong heats, with the arterial colour of the skin; but, if the same becomes malignant and low, with deficient arterialization, the temperature sinks, and the diminution of charcoal combustion in the lungs is evinced by the dusky colour of the skin, showing that the carbon is not thrown off as it ought to be; and the same phenomenon takes place in typhoid cases, and still more so in malignant cholera."

"Nervous energy is indispensable for the carrying on of the system, as this power becomes deficient, remedies that produce a vital action, so to speak, lose their power and merely act as on dead matter; thus, a blister will often not act before the approach of death, and hot water merely acts as on dead matter; it may separate the cuticle, though it cannot raise a blister."

We quite agree with Dr. Billing, when he speaks of inflammation as being a decrease of arterial action, instead of an increase, as some think. "In inflamed parts the capillary arteries are weaker in their action; there is diminished arterial action, for the action of arteries is contraction. Now the arteries in inflamed parts are evidently larger than before,—less contracted, that is, acting less." The arteries give way, and are dilated by the injecting force of the heart. "The way to diminish the inflammation is, by increasing the action of the arteries, as by cold or astringents, which make the arteries contract, that is, increase their action." "The increased throbbing of the arteries shows that they yield more to the heart's action."

"An inflamed part, when cut, will bleed freely, owing to its containing an increased quantity of blood, the arteries being dilated."

"The difference between congestion and inflammation is, that in congestion there is merely distension of the vessels; in inflammation, there is, in addition, alteration of tissue,—actual deterioration, more or less, of the structure of the capillaries." Congestion may be caused by obstruction, which may continue a long time, and be speedily relieved by removal of the cause; "but the case is different with inflammation,—the fault commences in the tissues. As soon as a want of that harmony between the nerves and capillaries which is necessary to organisation takes place, their fine tissue begins to decompose, the particles which were held together by this inscrutable agency begin to be precipitated from one another; and this takes place in every shade and degree, from the slightest scorch of the fire, or blush from the wound of an insect, to mortification and putrefaction."

Dr. Billing is of opinion, that the progress of inflammation shows the dependence of the capillaries on the nerves; the pain precedes the redness. "The action of cantharides in producing inflammation is another proof that inflammation begins in the nerve; for cantharides have no effect on the tissue of the capillaries, do not corrode or act in any way on their substance after death, when the nerves have no influence; whereas any really corrosive agent would act even more on the dead than on the living capillaries." As nervous influence becomes diminished, the capillaries relax. Now, certain agents applied to wounds cause the capillaries to contract; they stimulate them to action. "But the same agents, applied too strong, exhaust the nervous influence, and relaxation (which has been erroneously called arterial action) takes place." There is evidently much truth in Dr. Billing's views connected with inflammation; but we think there is a want of sufficient data to justify his conclusions altogether. Perhaps these data may be supplied by discoveries made by the microscope; but, for the present, we do not give our entire assent to his views. We know, that in inflammation there is an increased afflux of blood to the part; independent of the dilated state of the capillaries which retains the blood; the circulation is more rapid towards and around the congested parts, as observed in the first stage of inflammation, which is active congestion. Now, Dr. Billing objects to the use of the expression determination of blood, as applied in a case like the present, and says, that the heart has no power to determine an increased flow of blood to any particular part, and to illustrate this, says, "When the water is sent through the main pipe of one of the waterworks, it cannot be determined to any house in particular, but whichever house has the largest cistern will receive most water. By this I wish merely to illustrate, that what is called determination is not active, but passive." Now here we encounter a difficulty, —how to account for the quickened circulation in the part. Perhaps, on irritating any particular spot, so as to produce congestion, followed by inflammation, the heart may at once sympathise, and act with greater vigour, so that, not merely in the inflamed part or its neighbourhood, but throughout the whole system, the circulation is quickened.

"Secretions are carried on by fine capillaries, which, by their great number and extreme minuteness, envelope, in the form of a vascular membrane, the ultimate or terminal ramifications of the excretory ducts of all glandular organs." "These capillaries are many times smaller than the cryptæ, follicles, tubuli seminiferi, tubuli uriniferi, &c., as they are called in different organs, and do not communicate with them by open or terminal extremities, as Ruysch and later anatomists have supposed; on the contrary, the finest capillaries are seen to join one another, so as to form again larger and larger trunks, then called veins. Secretions, therefore, are vital transudations from the capillaries into the excretory ducts of glands." "It does not follow, that where there is diminished secretion there is obstruction. On the contrary, there may be more space for the flow, but then in a slower stream." "Hence, to account for the diminished secretion, it is not necessary to suppose either any 'spasm' or '*error loci* of the red particles getting into the colourless capillaries:' it is enough to consider, that the fluids find an easier way, by the enlarged capillaries onwards into the veins, than into the ramifications or cœca of the excretory tubes, unfitted as the capillaries are for secretion, owing to the morbid alteration of their physical condition; and besides, and yet more particularly, through the alteration of their dynamic (galvanic or electrical) condition, consequent upon the alteration of the supply of nervous energy to the part, the original cause of all the disturbance. Local enlargement of the capillaries explains that kind of diminished secretion where the heart is not deficient in injecting power; the relaxation of the capillaries, from want of nervous energy, producing a deficiency in the current of the blood; as in a dry skin when inflamed or feverish, or kidneys inflamed, or their capillaries enlarged by cantharides, so as to diminish secretion, in the manner first explained."

"In some cases of disease, when the secretions of the skin and kidneys are deficient, we renew them by bleeding, digitalis, antimony, &c., which lower the force of the pulse, thereby diminishing the distension of the capillaries, in conformity with the above statement. On the other hand, in health, stimulants, such as diluted fermented liquors, by increasing the nervous energy in the kidneys, &c., and quickening the circulation, at the same time increase secretion; or medicines, such as *uva ursi*, digitalis, antimony, neutral salts, &c., have a local astringent effect when circulated, besides their influence on the pulse. Stimulants cannot increase secretion by quickening the circulation when the capillaries are in a state of debility and morbid congestion; and a still further proof that they are in a state of morbid congestion, is the effect of cold to the loins in such cases in renewing the secretion; and the constringing effect of cold water, even cool air, in promoting the secretion of insensible perspiration, and thereby softening the congested skin in scarlatina."

In speaking of certain diseased states, Dr. Billing objects to the use of the word "irritation," and prefers calling that peculiar condition "morbid sensibility." There is no doubt, that the word irritation is frequently used in an equivocal sense; and even though we perfectly understand what is implied, still it is certainly less confusing to beginners to give words their common meaning. We may refer to his explanation of the use of nitrate of silver as an application to ulcers, to show where he would use the expression "morbid sensibility." When nitrate of silver is applied to an ulcer, it causes smarting at first; the pain, however, soon subsides, "so that a patient will fall asleep shortly after the application of nitrate of silver to an ulcer which had banished rest for several days and nights by its morbid sensibility. The beneficial effect may be thus explained:—The nerves of the part having become inflamed, and their vessels partaking of the debility of those in the surrounding tissues, the astringent diminishes the inflammation in the nerves, and thus removes their morbid sensibility, bringing them to the state of nerves in a healthy granulating part, in which those below the granulations are sensitive, but not more so than natural. Oil of turpentine applied to a burn acts on the same principle of bringing the nerves to the state of those in a healthy part, not merely by astringency, but also by eliciting more nervous influence in a part whose vital power is depressed."

"Morbid sensibility arises either locally, or in the nervous centres, in consequence of the lesion of the nerve being communicated to them, whether the lesion be in the sensitive or organic filaments: in the latter case there can be no evidence of morbid sensibility until the lesion is propagated to the nervous centre; as in tetanus arising after a cut has healed almost by the first intention, without pain in the cicatrix; or convulsions from worms in the intestines which have caused no pain."

Dr. Billing arranges medicines under the heads of *stimulants*, *sedatives*, *narcotics*, and *tonics*. He denies the existence of such a thing as a specific. We greatly regret that our space compels us to pass over much that we would gladly refer to; his mode of accounting for the action of different medicines will be found full of interest. We may just quote one or two passages that will serve to convey an idea of his views:—"Substances applied to the primæ viæ, or skin, are absorbed, and carried into the circulation; and we judge that, in this way, these metallic salts, oxydes, &c., are carried to the capillaries of diseased parts, so as to act as astringents, and strengthen and cure. We know, too, that they are adapted to different cases. Antimony, which produces sickness and lowers the pulse, *besides its local effect on the capillaries, when it reaches them through the circulation*, is suited to, and resorted to in acute diseases, such as inflammatory fevers, whether idiopathic or from injuries. Thus we can account for the efficacy of antimony in such a case as scarlatina, by its diminishing inflammation in the superficial capillaries of the skin, fauces, &c., which have been relaxed by the morbid poison, and, at the same time, by reducing the power of the circulation when it is too strong, if administered so as to produce slight sickness or nausea; or, if there be a low state of fever not requiring reduction of the pulse, the antimony may be given in small repeated doses, so as to circulate to the capillaries without depressing the pulse. Mercury, which has not this nauseating property, acts less on the pulse than antimony, but, perhaps, even more upon the capillaries when circulated to them; hence it is oftener used in chronic cases, both syphilitic and others."

"Mercury and iodine remove morbid growths by starving them, which they effect by contracting the capillaries, and not by increasing absorption, as is a commonly received opinion." Spongy gums and swelling of the fauces, arise as secondary causes.

Mercury at first causes contraction, but its continued use leads to a loss of power from over-action, —there is relaxation,—the power of contraction is lost. Though there is much that seems to bear out Dr. Billing's opinion, that there is no such thing as a specific, we are still not altogether satisfied with his arguments. We know that we may administer the same class of remedies in certain diseases without producing any effect until we at last resort to the one that experience has proved will cause the disease to yield rapidly. We have been struck on reading the homœopathic arguments in fauour of their doctrine, that medicines known as specifics afforded the strongest evidence in favour of the law "Similia similibus curentur;" and were they to stop short with this, and not proceed to infinitesimals, contenting themselves with asserting that they had discovered the law of specifics, we would not be so much surprised at men of character and reputation taking up their ideas. In regard to the action of antimony, we believe it is very generally prescribed as a nauseant, with a view to cause a general depression, and lowering of the heart's action. It is well to bear in mind, that being carried in the circulation to the remote capillaries, we may, with Dr. Billing, suppose that on them it exerts a beneficial constringent effect. Taking into account this double action of antimony, we see why it is, that in cases of acute inflammation we may follow up the good effects produced by bleeding, by administering nauseant doses of tartar emetic.

Passing by Dr. Billing's opinion that fever is dependent on a diminution of the nervous power, we proceed to the treatment of fever, which is ably discussed, and the rules laid down for abstraction of blood of great practical value. If there is anything in them which we are disposed to object to, it is, that we think our Author is rather too great an advocate for bleeding, and that rather too much is said against the use of stimulants. We believe that no one will ever have to treat fever except at the bedside, and though we may object to Dr. Billing's condemning the use of stimulants, we question if this does not arise from his having witnessed the bad effects of stimulants when injudiciously administered, rather than from any want of confidence in remedies which, when properly used, will often sustain a person through fever when all other treatment is valueless. What the Physician has to learn is, when to deplete, and when to stimulate; this cannot be learned except by observation at the bedside. Cases arise where it is absolutely necessary to abstract blood, from the arm or with leeches; but we believe, as a general rule, the less blood that can be taken the better, ever bearing in mind that fever has a certain course to run, and that if the patient can be supported for the required time, and local affections that arise during its progress be kept in subjection, recovery may be fairly anticipated. Now it often happens, that when a patient is bled at the onset of fever, the system receives a shock from which it never rallies. Again, how many cases of fever are there that early call for the administration of stimulants. "As a general rule," says Dr. Elliotson, "in the fevers that I see in London, venesection is not demanded in one case out of thirty or forty." We make these remarks, because we think that Dr. Billing advocates the one system and condemns the other, more than we are disposed altogether to agree with, at the same time that we think the utmost care is requisite in the use of stimulants, and are sure that his observations on bleeding will never mislead, but, on the contrary, will prove most useful to the judicious, observant practitioner, who will know how to apply them; but the inexperienced may be disposed to take up the practice with too great zeal.

Most of our readers are probably familiar with Dr. Billing's opinion of cholera,—that it is a fever; and, we think, whoever studies the disease will be disposed to admit the strength of his argument, even if they do not yield full assent to it. Dr. Alison, who is one of the most accurate observers of disease that we know, says, "There is a form of fever, of rare occurrence, but of great pathological importance, which has lately been described under the title of congestive; and, although that term expresses what is probably a concomitant, rather than the cause of the peculiarity of the symptoms, yet it is, perhaps, better to endeavour to fix its meaning than to substitute another.

"In this variety of fever the symptoms of the earliest, or cold stage, assume their highest degree of intensity; and feebleness of pulse, coldness of surface, muscular debility, and depression of all the functions of the nervous system, approaching and sometimes amounting to complete coma, are the leading symptoms. Spasms attend some cases of this kind, and vomiting attends others. Such cases occur now and then in epidemics of common continued fever; but are more frequent in the most malignant epidemic diseases, plague, yellow fever, cynanche maligna; and many cases of epidemic cholera are closely analogous to them. In all these cases, if this first and very dangerous effect of the remote cause of the disease is recovered from, it is usually succeeded by a distinct, but generally feeble, febrile re-action."

We refer to Dr. Alison, to show that the evident connexion between fever and cholera excited his attention, and the extract we take from his valuable work on "Pathology and Practice of Medicine," is as strong evidence as Dr. Billing need adduce to strengthen his own opinion.

The treatment, Dr. Billing says, should be that of fever: his prescription is—

'Water, half a pint; tartar emetic, two grains; sulphate of magnesia, half an ounce; mixed.

"The dose is, for an adult, (from 15 years upwards,) a table-spoonful every half hour; for a child of a year and a half or two years, a teaspoonful; and for the intermediate years, a proportionate dose."

There are many subjects we would have gladly alluded to, but we have already extended this review to a considerable length.

We must, however, notice Dr. Billing's theory of the cause of the sounds of the heart. We can but make our readers acquainted with it by quoting the following from his advertisement to the second edition:—"In an Essay read at the anniversary meeting of the Hunterian Society, (Feb. 9, 1832, and reported in the *Lancet*, May 19, 1832,) I first stated publicly, 'that the push or beat felt at the side is caused by the ventricular muscles in their systole to expel the blood. The first sound is caused by the tension produced in the shutting of the auriculo-ventricular valves, and the second sound is caused by the tension produced in the shutting of the ventriculo-arterial valves,' " &c., &c. Again, in 1840, Dr. Billing published some further remarks to support his view of the sounds being caused by valvular tension; and to prove that the supposition, of the muscular action of the heart having anything to do with causing the first sound, is erroneous. In arguing against Dr. Hope's opinion, he says, "Now, I contend that the first sound, as well as the second, is entirely valvular, and deny that any part depends upon muscular noise (*bruit musculaire*); for when there is simple hypertrophy (increase of muscle and muscular action), there is diminution of sound, although more of the condition necessary to *bruit musculaire*. This contradicts his opinion, and confirms mine, inasmuch as it is the valves being encroached upon, and their having less blood to stretch them, which prevents their producing the usual sound." Our readers are, of course, aware, that physiologists are pretty generally agreed, that the second sound is caused by the sudden tightening of the semilunar valves; but the cause of the first sound seems to be still an unsettled question. The most recent writers on physiology still hold the opinion, that the sound is in a great measure muscular, but may, in part, be attributed to the sudden tightening of the auriculo-ventricular valves, and when on the stretch "they may vibrate, like sounding boards, with the vibrations communicated to them through the tense tendinous cords that attach them to the vibrating and sounding muscles."—(Kirkes, p. 89.) Dr. Billing's is certainly the more simple explanation, and we are disposed to consider it the true one; and we think Valentine's experiment, referred to by Kirkes, is strong evidence in support of it. "If a portion of a horse's intestine, tied at one end, be moderately filled with water without any admixture of air, and have a syringe containing water fitted to the other end, the first sound of the heart is exactly imitated by forcing in more water, and thus suddenly rendering the walls of the intestine more tense."

We now conclude our notice of this very instructive and practical work, and would strongly advise our readers not to rest content with what we have said about it, but to get the book for themselves and study it carefully; and, when they have done this, we have little doubt that their opinion will agree with ours, that every page abounds with useful matter, and that the Author is a pleasing writer, as well as an accomplished Physician.

THE NITRATE OF SILVER IN CHOLERA.

[To the Editor of the Medical Times.]

SIR,—There was a reference in one of your late Numbers, to my employment of the nitrate of silver in the treatment of cholera. It is now my desire to place before the Profession a few facts, exhibiting the results of this practice. This must be done briefly, if I can, if not, at such length as the case requires. I will, at a future time, record more at length my personal experience of the present epidemic.

Not many men, it will be conceded, have engaged in the treatment of this disease with a fuller knowledge of its literature; and few have had ampler opportunities of testing the principles laid down by theory in the field of practice. I began my operations against this epidemy by the employment of salines, with the fullest reliance on their efficacy; and exhibited chiefly common salt at short intervals, in the combination recommended by Dr. Stevens. I met with many difficulties in these attempts:—1st. My private patients refused to take the salt, on account of the nausea it occasioned, and perhaps, also, from the simplicity of the remedy, which they could, easily detect. 2ndly. I was compelled to defend myself before an ignorant "Coroner's Jury," against some observations that had been dropped, in reference to my employment of this agent. These difficulties constituted no valid argument against the remedy, and I, therefore, altered the composition of my mixture; and, after much trouble, devised a form which respectable persons could not refuse to take, and by which poor patients might be deceived into taking what was necessary for their relief. I mention these circumstances, because they were practical difficulties which I had to contend with at the very threshold of my professional ministrations.

Salines I continue to employ, but without any confidence in them as curative agents in the more rapid forms of the disease. I intend, at some future time, to explain my views of the extent of their efficacy, when and how they should be employed, and what may be expected from them. I shall confine myself to a few observations on that kind of practice which has pressed itself upon me for adoption, and in which alone, in severe forms of the epidemic, I have any confidence.

I had found, as I believe almost every man of experience had found before, that a full dose of opium and chalk mixture, given in the early stage of the diarrhœa, would effect a cure. This is the simple and established practice for diarrhœa, and there is none better. Sometimes, however, a case of diarrhœa—otherwise rice-water purging—would occur, where chalk mixture and opium were of no use in whatever quantities given. I quickly discovered that pushing these remedies was a waste of time, and giving death fatal opportunities; and my next point to solve was, What is the proper indication of practice to be pursued in this stage?—to act on the skin,—to encourage the diarrhœa,—to excite vomiting,—or suppress the evacuations? The vapour-bath will effect the first, saline aperients the second, emetics of all kinds the third; but a remedy was yet to be found for the fourth intention. I must not forget that the stimulating plan suggested itself, but my own Tables stood me in the face,—and now I may express my pleasure, *en passant*, that scarcely any Physician, or Practitioner, of repute, in this country, has employed this system of treatment. If my Tables have succeeded to this extent, I feel rewarded for the labour they cost.

To be brief:—My argument was, if the disease can be checked, in the first stages, by astringent re-

medies, and if these be the obvious and certain means of cure,—then, in the latter stages, when the purging becomes more abundant and severe, they are more imperatively necessary. This is the natural and *primâ facie* view of the matter, and is, in truth, acted on by every medical man in the first instance; and he only abandons his first correct ideas because the remedies he has been taught to use have utterly failed. He then lapses into the mysticism of minute doses of calomel, of whose action he is perfectly ignorant, or into the quackery of wet sheets and cold water; which are the refuge of the perplexed Practitioner. I admit that these agents are useful in their proper time; I have employed them with great success, but I hope with discrimination.

My experience of cholera has led me to this conclusion, *that any remedy will produce the same effect in cholera that it will in any other disease;* and that its effects in the ordinary dose are equally obvious. When any remedy, given in a full dose, will not produce the expected effect, the right indication has not been pursued, and the practitioner is wasting his drug, and trifling with his patient. There ought to be no mystery in the treatment of cholera; but the mystery is made by practitioners themselves, who, when they find that a particular drug does not produce its ordinary effects, prescribe some necromantic form of administering it, and gravely abide the issue. All the importance is thus ascribed to the form and quantity—to a single drop or single grain, less or more, given in so many minutes, and not to the drug upon its own merits.

With the view, Sir, of obtaining an astringent powerful enough for my purpose, I employed a variety of remedies; among others the acetate of lead as recommended by Dr. Graves, and found it more efficacious than any other medicament that I employed; but it failed in severe cases, and in one instance I gave 42 grains in about 36 hours without arresting the purging. Sulphate of copper had also a trial; and although it arrested attendant hæmorrhage in two or three cases, it appeared to me to irritate the mucus membrane, and increase the rice water evacuations.

Nitrate of silver was at last given in this form:—℞ Argent. nit. gr. j.; pulv. opii gr. ¼; Ft. pil. post sing. alvi deject. liquid. sum.

If the purging were very frequent, the pills were given regularly every hour to the extent of five or six doses, or even more if necessary. When the evacuations have been very profuse, two or three pills have been given at a dose, and repeated until the evacuations were partially or wholly arrested,—a result that invariably occurs. This remedy is as certain in its effect of restraining the rice-water purging as opium and chalk-mixture in checking the premonitory diarrhœa. I do not say that every case will recover in which the purging is checked;—this would be an assertion unbecoming scientific medicine. In some cases, do what you may, the patient will die; the dew-drops of the sepulchre are upon his brow, and death is a disease no medicine will cure.

Since I commenced the use of this remedy, my assistants and myself have treated 853 cases of diarrhœa in all its stages, and, of this number, seventy only have been placed under the nitrate of silver treatment, but these seventy were the worst cases, and in the rice-water stage. They were considered by myself and assistants, as they happened casually to come under the care of either, to be beyond the reach of other remedies, and were placed upon the plan recommended as a *dernier ressort*. I know that the reader will ask, But were the seventy cases true cases of cholera? Had they all the symptoms of collapse? Certainly not. I should be very sorry if they had. More than this, I have now attended 1600 cases, or more, of bowel complaints, in one of the most fatal districts of the metropolis—the West London Union; I have seen the disease in all its forms and stages, and have not yet acquired the assurance that would enable me to say that I have attended exactly 800 cases of cholera and 835 cases of premonitory symptoms, which is about the proportion assigned to these stages, respectively, by the abettors of particular plans of treatment.

When my assistants find that the purging is not restrainable by the opium, kino, and chalk in full doses, but that the dejections become more watery and copious, the pulse begins to fail, and the powers of the system to yield, they administer the nitrate of silver pills, and I am happy to say, that the effect is so decided that fully developed collapse rarely occurs. The same remedy has been given in profound collapse, and the patients have recovered. The first case in which it was administered was that of a youth of the name of Boak, who was blue and almost pulseless, and profusely purged; nevertheless, the purging was arrested, and the lad recovered. This was the first instance of recovery I had witnessed from state of collapse so deep.

Seventy cases of the severest kind have been placed upon this treatment from among *eight hundred and fifty three,* and, in that number, there have been only *five deaths.*

I state, again, that these seventy cases were not all cases of collapse, though these and many more of the aggregate number were cases of cholera so called; for I confess myself quite unable to draw the line of distinction, in practice, between cholera and diarrhœa.

They were not cases of collapse, because seeing them early they were not allowed to run into that stage. In the stage of actual and deep collapse, I believe that medical treatment is of little avail, but I am satisfied that the only chance for the patient is suppression of the evacuations.

Of the five cases ending in death, one died within twelve hours; she was one of four in a family attacked with the disease, and was in a hopeless state from the first. Another was a peculiar case; the girl was attacked with rice-water vomiting and purging at two o'clock, p.m., walked to my surgery, though in a state of great debility, received the pills, and the evacuations were completely arrested; at five o'clock she went down stairs, and, whilst washing in the kitchen, shrieked violently, had a kind of fit, was incoherent, fell into collapse, and died in twenty-one hours. A third case died through neglect; it was that of a man of good bodily vigour; he was in collapse, but his evacuations were arrested, and his pulse was becoming full and his face cheerful; so much so that a message was sent to me by a clerical visitor, "that, little judge as he was, he was sure this man would recover. I thought so too. I called to see him at twelve o'clock, p.m.; the door was closed, and I knocked; to my surprise my patient's voice vigorously responded, 'Come in.' I went in, and found the exhausted wife fast asleep with her children on another bed, and not a single person at hand to render aid to the poor man in case of need. They, no doubt, believed that he was safe; nevertheless, at about four o'clock that morning profuse purging came on again, there was no one awake to give the patient medicine, and when I called in the morning his case was hopeless.

This case induces me to remark here, that after the purging is stopped, it will often reappear at the end of twelve or twenty-four hours; and, in such circumstances, the treatment should be resumed.

The fourth case was that of a woman who had nursed the youth Boak already alluded to. I saw her but once, and she was then dying. I ordered the pills to be administered, but without any expectation of their being of use. She suffered twenty-one hours.

The fifth case was a combat of seven days' duration. The woman fell into collapse, and the pills were administered. For two days she had neither vomiting nor purging, and the dampness of the skin was removed; but at the end of that time she became comatose and died. This woman was of a very florid complexion, and had a tendency to apoplexy. This is a brief history of the five fatal cases; and it will be seen that, even in these cases, the specific effects of the remedy were produced. I apprehend that such cases as run their course within twenty-four hours were, from the first, beyond the aid of medicine.

Now, Sir, there is no mystery about this remedy: there is no room for speculation about its action on the liver or the kidneys, the blood or the bile,—it has its appointed work to do, and it does it or not,—of that every man is the judge, his own eyes are the witnesses.

I may remark, in conclusion, that I have never seen any evil results spring from its use. It may be employed, with judgment, in the secondary diarrhœa as well as in the primary,—and in any case, indeed, where an arrest of purging may seem necessary; but it must not be given rashly, and when simpler remedies will effect the same end. Vomiting sometimes succeeds an arrest of the purging, but, although troublesome, it does no harm; and, if a little fever should supervene upon the use of the silver it would, in some cases, be desirable, and assist re-action,—in other cases it can be readily assuaged by the usual saline remedies.

I am, Sir, your most obedient Servant,

GEORGE ROSS,

PHOSPHORUS IN CHOLERA.

[To the Editor of the Medical Times.]

SIR,—Having seen two cases of Asiatic cholera out of three recover from the stage of collapse during the use of a powerful remedy, scarcely ever employed medicinally by English practitioners, I beg to introduce it to the notice of your readers, thinking it worthy of their consideration, although I do not presume, at present, to attach much weight to the recovery of the two patients. The remedy I allude to is phosphorus, which was administered in the dose of one grain, combined with wax, in the form of pill, by Mr. Batten, surgeon, residing in Westbourne-street, Pimlico, with whom I visited the patients. The two persons who recovered resided in Queen-street, Pimlico; one having taken three pills during six hours, while the other took only one pill. The other patient, who lived in Westbourne-street, took two pills; she rallied for a short time, but eventually died, having been in a hopeless state when first seen. Medical men are aware that it is a powerful medicine, and should be used with great caution. Beck says, that two grains and a half, in solution, have destroyed life; and Taylor says, that less than half a grain has produced the same result. Gendrin also considers it to be a dangerous medicine. I would not venture to employ it unless the patient were in state of collapse, and then would it not act more quickly in the form of phosphoric ether—"æther phosphoratus"—dissolved in sugar? I have invariably checked every case of cholera which I have seen, prior to the blue stage, by calomel, combined with small doses of opium, sinapisms, warmth, absorbents, and stimulants. Mr. Batten published his mode of treating cholera by phosphorus in the solid form in 1833.

I am, Sir, your obedient Servant,

C. J. B. ALDIS, M.D.,

Lecturer on Medicine at the Hunterian School.

1, Chester-terrace, Chester-square,

Sept. 8, 1849.

ON THE TREATMENT OF CHOLERA.

[To the Editor of the Medical Times.]

SIR,—As the different views and corresponding treatments of cholera which have been adopted by the Profession may favour the impression that medicine is an uncertain science, I will now enter briefly into the consideration of the circumstances which sanction the variety of views and practices just alluded to.

These chiefly depend on the different classes of cholera patients, the various kinds of cases, the stages of the disease, the remedies employed, the results of their employment, and the appearances on dissection; on the whole of which topics I will slightly touch.

And, first, with regard to the classes of patients. Those practitioners who are accustomed to private practice only, and, particularly, who attend the higher classes, and are called into the case at the very first onset of the disease, and during its first stage, that of *irritation*, before this state of the nerves have produced arterial re-action, are justified in viewing the disease as dependent simply on irritation affecting some portion of the internal surface of the alimentary canal. They are confirmed in this opinion from the result of their practice and experience, by being afforded an opportunity of removing the evil while it is yet in this primary stage, by anodynes and opiates, and thus preventing its further progress.

Amongst the middle classes, on the accession of the disease, and during the slight precursory diarrhœa, the patients frequently, before sending for their medical attendant, have recourse to some nostrums they have been accustomed to prescribe for themselves, or that are recommended by their friends or neighbours, and those failing after trial for a day or two, an alarm is excited, and the *doctor* is sent for.

He now finds the disease passed into its secondary, or reactionary stage, where the excitement of the arteries consequent on the irritation of the nerves supplying them, re-act back upon the nerves, and thus a mutual action and reaction is established between them, not easily to be allayed.

They now find their patient with the pulse slightly accelerated, with a dry skin, and a white feverish tongue. There is a dull, heavy, faintish pain in the umbilical region. This is sometimes relieved, but oftener increased after an evacuation. Steady extended pressure rather eases it, but continued pressure on one point increases the faint feeling, and developes the internal tenderness.

Besides this continued pain and uneasiness, there is, especially if the case be severe, a periodical pain, with gripings or tormina, coming on at intervals less or more regular, as the disease advances. The experienced practitioner can now discover traces of actual inflammation of the mucous tissue. These symptoms have led some, who practise no other method of removing inflammation than depletion, to the use of the lancet. In country places, and where the strength of the patient was such as to produce

subsequent reaction, this practice has been attended with much advantage in cases numerous enough to sanction its adoption.

This has also made these same practitioners condemn, in no measured terms, the use of stimulants in any form or case. On the contrary, in large towns, where the patients are weak, and as in such cases the symptoms of inflammatory action are not so well marked, and assume more an irritable and spasmodic character, practitioners are induced to use stimulants and antispasmodics. These remedies have a chance, when freely administered, to induce, in weak subjects, a similar re-action to what blood-letting produces in the strong. The last-mentioned medical men are justified by the result of their practice in considering the disease only nervous and spasmodic, and in believing their country brethren misled in principle and practice.

Both these methods of treatment may succeed according to the circumstances of the case; but unless the medical attendant can see into the principles to be acted upon, the success must depend upon chance. In medicine extremes meet, and very opposite means are productive of the same results. Thus in cholera itself, one man may equalize the balance of the nervous and circulating systems by inducing artificially a cold stage of fever, followed by a hot and sweating stage, and consequent general restoration to health, by enveloping the patient in a wet sheet—another may produce the hot and sweating stages, and the same results, by a hot bath; still, unless the practitioner can see into the principles on which he means to act, the success must be frequently accidental. The patient in the wet sheet, for example, may be so weak that the cold fails to excite the beneficial reaction; the blood may be driven by the cold on the internal organs, nay, never again be sent out upon the surface, and, by overpowering these organs, accelerate the death of the patient. One man, as a local rubefacient, may place over the seat of the pain a piece of ice; another, for the same purpose, may apply a sinapism, and a third may use hot fomentations; yet, though all the three applications are different in kind, they are the same in principle. As the inflammation attendant on cholera is of a low erythematic character, and the patients are generally in a state of debility, the blood-letting, from frequently failing to produce the re-action necessary for the equalisation of the energy and circulation, only tends to facilitate the destruction of the patient.

On the other hand, in this stage, the stimulating is equally destructive; for, if the remedies are not pushed so far as to remove, by equal distribution, any concentration of energy and blood, they also only increase the force of the circulation in the wrong direction it has assumed, and the fatal process is thereby accelerated. Here the benefit of the peculiar action of the port wine appears evident, by exercising a direct influence on the seat of the disease, soothing the irritation of the nerves, and equalising the arterial distribution, and affording general tone to the enfeebled vessels, and to the weakened system. Here also the local-alterative effect of the tartar emetic eruption, by producing a *metastasis* of the diseased action to the surface is particularly required,—a practice which never fails to effect this change, even in cases of the greatest debility, especially as the coming-out of the eruption is promoted by stimulants and strengthening medicines. But, to return, the last class of patients are those in whom little attention has been paid either to the primary stage of irritation, the re-actionary one of local arterial excitement; but who, when the invalids fall down in the *congestive*, or terminal stage, called *collapse*, are carried off to an hospital. The gentlemen, therefore, attending in public Institutions of this kind, seldom see their patients till they are actually in a state of *congestion*, and labouring under stagnation of the general circulation. Under such circumstances, we need not be surprised to find these Practitioners looking upon the disease as entirely congestive, and employing every possible means that can be suggested to bring their patients out of that deplorable state. If, however, this view were perfectly correct, a very great proportion of their patients would recover.

But this is by no means the case, as may be seen by the authenticated return of the number of cholera patients received into the civil hospitals of St. Petersburgh, where, out of 6,943 cases, 3,507 recovered, while 3,313 died, which, with what would also die of the 123 still remaining uncured, amounted to within a fraction of the one-half of the whole number admitted. As I have said in a former communication, death or recovery depends on what change in the internal organs may have taken place during the excitement preceding this terminal stage.

If, as some assert, the genuine cholera be the sudden accession of a cold congestive state from a poison in the blood, communicated by the atmosphere, or some unknown cause, and making its attack without any precursory symptoms, like the cold stage of an intermittent, then there is a presumption, that a very great number would recruit, from the use of powerful stimulants, since no fatal change, produced before the accession to this state, would prevent the possibility of their recovery.

Although the precursory stages are in some cases very slight, yet I have never seen a case of the above kind in cholera. Nevertheless, I do not deny the possibility of such attacks; for I once witnessed a woman of the name of M'Indow, at Edinburgh, in 1824, who died in the cold stage of infectious puerperal fever, the system being too weak to bring about the re-action necessary for the production of the hot stage.

R. K. Richmond.

10, Red Lion-square, Sept. 4, 1849.

THE CHOLERA IN AMERICA.

[To the Editor of the Medical Times.]

Sir,—Two or three weeks ago, I returned to England, from a tour through many of the States of America, where I had opportunities of studying the scourge which is now devastating the Western and Eastern World, and especially in the cities of New Orleans, St. Louis, and Cincinnati. I cannot hope to offer to your readers much that is new, but, since we are anxious to obtain the fullest information respecting this fearful malady, you may, perhaps, think this communication worthy a place in your columns.

I shall not enter upon a consideration of those circumstances attending upon cholera which are peculiar to the West, but shall confine my remarks to those which are common to the two countries, yet existing in an exaggerated form, in the Western World.

It is remarkable, that, of the deaths accruing from cholera in America, only about 12 per cent. occur amongst Americans. This may be accounted for by stating, that the Americans are usually very temperate, taking only three meals per day, and, then, eating and drinking moderately. They are usually in independent circumstances, and without the corroding anxiety which enfeebles the body and mind, and depresses the spirits of many in the old country; and, therefore, they have an energetic and vigorous mental and bodily system, and great exuberance of spirits, exciting them to enterprise and the performance of acts of daring. The remaining 88 per cent. of deaths from cholera occur amongst the recently arrived emigrants, and I would call the special attention of your readers to the reasons which may be adduced for this. The emigrants usually arrive from countries, where they have long submitted to poverty, with all its attendant evils, arising from mal-nutrition and mal-assimilation, want of cleanliness and pure air, excessive exertion and deficiency of moral courage. They received from their parents, frames feeble and disposed to the attacks of disease, and have increased these primitive evils. During a long sea voyage they have further suffered from sea sickness, impure air; from unclean linen, water-closets, crowded and uncleansed berths, the want of fresh nutritious food, food badly cooked and *ennui* which the continued monotony has induced. The mass of emigrants is composed of Germans and Irish. On their arrival in America, the former are remarked for their slothfulness, want of cleanliness, looseness of morals, and an intemperate use of new raw whiskey. If very poor, they continue to starve on a wretched *soupe maigre*; and, if in better circumstances, they stuff themselves to repletion with excellent food, to which, from its price, they had been unaccustomed. The latter class are also idle, dirty, and intemperate, and live on an excess of vegetable food. They cannot sleep if there be less than five persons in a bed; and they economize their means by covering a whole floor. The remaining emigrants are mostly poor English and Italians, whose habits are by no means covetable. During the first twelve months all classes of emigrants are noticed for their imprudence, as by exposing themselves to the deluge of a western thunder-storm, to be subsequently dried by the sun, scorching at 120° or 130°. The Irish and Germans saunter about in the burning sun, or in the shade, at 99° in summer; and the industrious Englishman believes that he ought to labour throughout the day, as he has been accustomed in his mother country.

The cholera has raged the most fearfully in those cities which are frequented and mainly inhabited by emigrants. In New Orleans, the floating population is not less than 60,000. The mortality, so far as it has been ascertained, was fearful; but thousands have died whose names, families, and destination were unknown, and have been hurried into the graveyard, with or without coffins, as soon as, and sometimes before, they were dead. If the authorities were at all aware of the amount of mortality, they did not divulge the secret, but endeavoured to re-assure the commercial world, by representing the evil to be diminutive; for, in May last, we were informed, by the New Orleans journals, that the city had never been so healthful as at that period, whilst every resident saw hundreds of victims carried to their graves. In St. Louis, the Germans and Irish constitute one-third of the entire population; and in Cincinnati there are 50,000 Germans alone. The mortality from cholera in June last in these two cities, was from 100 to 150 per diem. The Irish and German emigrants do not usually proceed up the country, and sit down on their own farms, but hire themselves as domestic and farm servants, and bricklayers' labourers, and remain in degradation, vice, and poverty.

In such cities there are also other circumstances which ought to be noticed. There is not a sufficient supply of gratuitous Medical assistance, and the ordinary charges of Medical Practitioners are exorbitant. There is no efficient system of drainage in any of the American cities, and many of them cannot be drained. New Orleans is situated on a level swamp, full six feet below the level of high water in the Mississippi, which river rolls along its side. There is, therefore, no fall for the water, and no underground drainage of value can be effected. The soil upon which it is built has been very recently deposited from the sea. Shells are found quite up to the surface, and every hole is filled with infiltrated water, loaded with matters which putrefy, and emit a horrible effluvium, under the influence of a burning sun. No stone, nor any other kind of soil, is met with at the bottom of the deepest foundations, and the deficiency of all materials for the formation of roads causes the streets to be ankle-deep in mud; and where the streets are paved the stones are so far apart that accumulations of stagnant, stinking water abound everywhere. The superficial drains lack a proper fall, and are ever filled with filth. One cannot walk through the city without being disgusted with the dirt and stench. These evils, only lessened in magnitude, exist in many parts of St. Louis, Cincinnati, and New York.

House-rent and lodgings are usually dear in these cities as compared with the more inland parts, so that people are induced to crowd themselves together quite as much as in the cellars of Liverpool, or the garrets of London. They thus live in impure air, retain their uncleanly habits, and add to the general filth. This crowding together of persons is a notorious cause of cholera. It was remarked, that the cholera was the most fatal amongst those slaves who live in small ill-contrived cabins, and without a sufficient space being allowed to them. In my journeyings in June, I called upon one of the largest planters in North-Western Louisiana, who informed me, that he had lost fourteen slaves, that four additional had died during the day, one was then dying, and he had many others suffering from the premonitory symptoms. I subsequently learnt, that he was notorious for crowding his slaves together. During the late inundation of New Orleans, a remarkable instance occurred of the evils resulting from high rentals. A large portion of the city was covered with water to the depth of the bed-room floor. The houses were vacated, and communication was carried on through the aid of boats. Many persons removed from other parts of the city to inhabit these chambers, so that they might live rent free.

In these cities poverty and want are as frequently met with as in the more unfortunate parts of our country, and, therefore, the like evils occur in both countries.

It is well known, that very many deaths occurred on the steamboats plying up the Western Waters, and we rarely travelled on a boat without a death occurring. Sometimes a cabin passenger dies, but usually it is the intemperate fireman, or the occupant of the steerage. There is no provision made for the comfort of the steerage passengers on these boats, and they are crowded amongst the merchandise and filth, without beds, or any convenience as to their food. They are surrounded by cattle and pigs, whose dung is allowed to remain upon the boat. It is the policy of the barkeeper to have his "bar" at the hinder part of the vessel, so that he may entice these poor people into his fangs. It was remarked that cholera did not occur on board boats which had the bar in front. A boat carried more than 300 emigrants to St. Louis in June last, and it was known

that not more than ninety were alive three days afterwards. From these facts we may affirm, that the usual predisposing causes of cholera in America are, want of cleanliness, impure air from crowded and uncleansed rooms, and accumulated putrefying filth in streets; the lack of proper food, intemperance, and poverty, with its attendant and consequent evils of feebleness of system and lack of moral courage, or an oppressive sense of fear; and this last is believed to be the most important. An Irish emigrant at Cincinnati, in June last, refused to leave his bed, stating, that he had the cholera. The Bishop saw him, and believing that he was well, ordered the people to compel him to rise. He soon returned to his bed, affirming that he had the cholera, and should die; and die he did. A farmer, residing twelve miles from Cincinnati, drove a load of fire-wood into the city early in the morning, and found his cousin dying of cholera. He stayed with him a short time, and after his death returned home. He felt unwell, and a doctor was summoned; but he died in three hours. The wife was well when the Physician left the house, and in one hour was a corpse.

There are other predisposing causes, such as the results of other diseases, grief, anxiety, and excessive mental or bodily exertion. A very common cause is simply too great repletion of the stomach and alimentary canal. The functions of these organs are deranged, the secretions become unhealthy, constipation is induced, and then removed by diarrhœa, which, under ordinary circumstances, would be regarded as healthful; but which arising from the presence of disordered secretion, induces irritation of the mucous membrane, and excitement of the nervous system. An unusual change of diet merely, will cause an untoward derangement of the digestive function. Fear will induce mal-assimilation of the food, and prostration of the system, or by the prostration alone, will bring on an attack of pure mucous diarrhœa.

Sudden changes in the condition of the capillary circulation were found to be most important, such as those induced by violent variation of temperature in the midday and evening, in the Western States especially, and the chilling effects upon the skin of the thunderstorms alternating with the burning of the southern sun.

These statements receive confirmation from the well-attested fact, that individuals in good health, of sound constitution, of rigidly temperate habits, who exercise prudence in the selection of food, and of sufficient moral courage, might fearlessly travel in steamboats in which cholera raged, or mingle with the tainted inhabitants of condemned cities. But it was essential for their safety that they should not expose themselves to the influence of the causes before mentioned, so long a period as to induce languor or debility of the system.

The treatment of cholera is a most important consideration, and I fear that we have regarded it too empirically. It is absurd to expect that any one plan of treatment shall be applicable to a majority of the cases, whether that be the stimulating, the opiate, the mercurial, the saline, or any other. No disease, having so great a variety of predisposing causes, will submit to one plan of treatment. The rule must be, to vary it according to the predisposing cause. I think that far too much attention has been given to the diarrhœa, and far too little to the cause of it; not that I would neglect the diarrhœa; but the one should be done, and the other not left undone. The diarrhœa is the immediate predisposing cause of cholera, but it is itself induced by circumstances acting previous to its occurrence. If the diarrhœa result from the presence of irritating matter in the alimentary canal, whether that be faecal matter, or only disordered secretions, the treatment ought to be that of ordinary diarrhœa; viz., the exhibition of aperients. In persons of feeble system I prefer the use of castor oil, rhubarb, and calcined magnesia; and in others the sulphate of magnesia or soda, coupled with an aromatic and an occasional dose of calomel. Where the diarrhœa appears to be of a purer character, as the result of fear, or other depressing influences, stimulating astringents should be freely employed, such as catechu and kino combined with cayenne pepper or ginger. Nitrate of silver and sulphate of copper are also useful, but they must be accompanied by stimulants. It is most important that the patient should not be suffered to take liquids, except in the smallest quantity This is the treatment in the early stage; but at a later period the matter assumes a more urgent and complex form. Whenever the symptoms are believed to depend upon the presence of irritating matters in the alimentary canal, the treatment just mentioned should be adopted, and opium will be injurious, except when given in one single full dose at an early period for the purpose of suspending the sensibility of the sensorium. In addition, I strongly advise the use of a rich stimulating soup by the mouth and rectum, made like to hare, ox-tail, or mock-turtle soup, and given in a very concentrated form. Other stimulants should not be exhibited until the aperient antacids have produced their effect, except as a *dernier ressort*. When the above-mentioned condition of the alimentary canal is not evident, I think the plan of treatment is more clear, and the results will be satisfactory. All the symptoms attest the existence of great exhaustion, and of unnatural sensibility of the nervous system. How relieve such a state? The effect of opium is to exhaust the system, and, unless it be administered in overpowering quantities, it will not relieve the suffering; but the proper exhibition of stimulants will effect both these *desiderata* speedily and safely in most instances. This is the case in which stimulants should be most freely administered, and it is somewhat analogous to the condition of things in the later stages of typhoid fever. When stimulants are administered, the doses are usually given with too little frequency, so that the stimulating effect of the one dose is succeeded by re-action before another dose advances to its assistance. The astringent principle in good port wine appears to render this wine a most desirable remedy under these circumstances; and one glassful of undiluted wine should be given to an adult every quarter of an hour until the urgency ceases. This direction should be faithfully observed. If opportunity offer, it is well to give small quantities of the concentrated soup before mentioned. If Cogniac be preferred to port wine, it should be given undiluted, in wine-glassfuls, so frequently that a bottle, or even two bottles, may be taken during the twenty-four hours.

Mustard poultices and friction should be incessantly employed in every case. It is needless to add, that whatever circumstance may have predisposed to the attack should be cut off, if possible; and the patient placed in those which usually conduce to health. Above all, it is essential to allay the fears, and to arouse the moral courage of the patient.

I am, Sir, your most obedient servant,

Ed. Smith, M.D., LL.B.

Fall House, Heanor, Derbyshire, Sept. 12, 1849.

CHLOROFORM IN CHOLERA.

[To the Editor of the Medical Times.]

Sir,—I beg particularly to call the attention of the Profession to the internal use of chloroform in the present epidemic. I, as well as some other medical friends in this town, have used it very extensively, both in the premonitory diarrhœa and in the collapsed stage, with very extraordinary benefit. It should be given, mixed with mucilage, in doses of from five to fifteen minims every hour or two. One dose will very frequently stop the diarrhœa and sickness. The patient should drink plentifully of milk and cold water, with a little sesqui-carbonate of soda in it. The warm-bath, with a large quantity of common salt in it, frequently repeated, is a valuable auxiliary; but chloroform is the remedy.

Your obedient servant,

John Davies, M.D.

Hertford, Sept. 12, 1849.

P.S.—I am quite aware that Mr. Brady, of Harrow, and others, have used the same remedy successfully in the course of last winter.

OZONE.

[To the Editor of the Medical Times.]

Sir,—During the past week, I have read accounts of the deficiency of a gas (called ozone) in the atmosphere as a cause of the cholera prevailing to such an alarming extent just now. This gas was discovered by Professor Schonbœin, and, as I can find no mention made of it by Fownes, you would oblige a reader of your Journal by stating what is the composition of it, and how produced.

I am, Sir, yours obediently,

Sept. 13, 1849. J. L. V. G.

[Ozone, to which influenza is ascribed by Schonbœin,—(see remarks by Dr. Bushnan, in our Journal for April 8, 1848, No. 445,)—and cholera by others, has been variously described and defined. It is said, by some, to be a combination of nitrogen and oxygen; by others, of oxygen and hydrogen in new proportions. Dr. Spengler, of Elville, in *Henle's Zeitschrift*, declares it to be formed in the air by the decomposition of its water through disturbances of its electrical equilibrium. Dunglison, after Schonbœin, defines it, "the powerfully odorous matter produced when a current of ordinary electricity passes from pointed bodies into the air." Every one who has been in the habit of experimenting with a large electrical machine, must have remarked this odour during the escape of positive electricity from a point. Schonbœin noticed, also, that it accompanies the electrolyzation of water; that it is only disengaged at the positive electrode; and that it can be preserved in well-closed glass vessels for any length of time. (*Noad's Lectures*.) Draper, of New York, regards it as the active state of oxygen, or oxygen rendered active by electricity. Thus, by passing a current of electric fluid through pure oxygen, ozone is obtained, having a sulphurous odour, setting fire to phosphorus and irritating the nostrils, as in catarrh. The test of its presence is a bit of paper dipped in a solution of iodide of potassium, and then in one of starch. The oxygen of common air acts slowly on it, and produces gradual change and coloration. Ozone and ozonised air will occasion them to act promptly on each other, producing a dark blue colour. See *New York Journal of Medicine* for July, 1849.—Ed. *Med. Times*.]

SMITHFIELD AND THE CHOLERA.

[To the Editor of the Medical Times.]

Sir,—I observe in your great contemporary the *Times* of this morning, an account of a meeting of the City authorities, wherein two of the members of the "body corporate" exultingly allude to the stand they have made for the preservation of Smithfield Market, which you, and the major part of the Press, have so justly termed, "The Great Nuisance." Quoting, as their justification, "that no case of cholera had occurred in Smithfield;" *ergo*, it must be the very seat of health. True, in the pens of Smithfield there has probably been no such case, for the best of reasons; but, if these gentlemen would take the trouble to inquire, they would find that in the courts around, and in Cloth-fair, there have been cases enough—nay, too many. Besides, had these gentlemen read the Lectures in your Journal, given by Mr. Ross, of Farringdon-street, (in the vicinity of Smithfield,) they might have been less confident, as he therein defines the locality of cholera, and endeavours to establish a law, whereby Smithfield, in virtue of its elevation, would enjoy comparative freedom from the scourge.

A Sanitary Reformer.

QUERIES

PROPOSED BY THE CHOLERA COMMITTEE OF THE COLLEGE OF PHYSICIANS, IN THEIR LATE CIRCULAR TO MEMBERS OF THE COLLEGE.

1. Can you communicate to the Committee any facts observed or investigated by yourself, which appear to you demonstrative of the contagious or infectious nature of Cholera, or of its communicability in any way?

2. Can you detail any facts illustrative of the influence of deficient ventilation, damp, and foul air, respectively, or of other external circumstances, in determining or favouring the production of Cholera?

3. What are the particular states of body or mind, which, according to your experience, have most frequently predisposed individuals to be attacked by the disease?

4. What are the groups of symptoms which have preceded the full development of the attack of Cholera?

5. Have you observed any distinctive marks, by which Diarrhœa, about to pass into developed Cholera, may be recognized?

6. Does it accord with your experience, that Cholera, in the stage of Serous Diarrhœa, may with certainty be checked? What means have you found most effectual in attaining this object?

7. Have any facts come under your notice, which, independently of theoretical views, would elucidate the question, Whether the affection of the intestinal mucous membrane in Cholera, is the primary disease, or one of its secondary effects?

8. Can you furnish the Committee with the particulars of cases in which the rapidity of the fatal collapse has borne no relation to the amount of fluid discharged from the blood-vessels, either through the intestinal mucous membrane, or through the skin?

9. What are the pathological conditions which you have observed in the "Consecutive Fever."?

10. What means have you found most successful in re-exciting the function of the kidney after the stage of collapse has passed?

MEDICAL NEWS.

Apothecaries' Hall.—Names of gentlemen who passed their examination in the science and practice of medicine, and received Certificates to practise, on Thursday, September 6, 1849:—Thos. Stokes Guppy, Sidbury, Devon; Philip Henry Tribe, Bristol; Richard Barwell, Norwich.

War-office, Sept. 11.—67th Foot.—Assist.-Surg. Thomas Patrick Matthew, from the Staff, to be Surg., vice Charltoe, deceased.—16th Foot.—Acting Assist.-Surg. Henry Martyn Fraser, M.D., to be Assist.-Surg., vice Kennedy, appointed to the Staff.—Royal Malta Fencible Regiment.—Carmelo Ellul, M.D., to be Assist.-Surg., vice Bernard, promoted.—Hospital Staff.—Assist.-Surg. Edward John Kennedy, M.D., from the 16th Foot, to be Assist.-Surg. to the Forces, vice Matthew, promoted in the 67th Foot.

St. Thomas's Hospital.—The vacancy in the office of Physician to St. Thomas's Hospital, occasioned by the death of Dr. Henry Burton, has been filled up by the appointment of Dr. J. Risdon Bennett, one of the assistant physicians.

Obituary.—On the 3rd inst., after a few hours' illness, Michael L. Mason, Esq., surgeon, 5, High-street, Newington; an old and much-respected practitioner.—On the 4th inst., John Morgan, surgeon, Ordnance Hospital, Dover, late of Royal Artillery, aged 71, sincerely beloved and lamented by his relatives and friends.—On the 1st inst., at Stockwell, Surrey, after a few hours' illness, Dr. James Leatham Clarke, surgeon, R.N., late of Her Majesty's ship Hydra, in his 41st year.—On the 26th ult., in Dublin, Cusach Roney, Esq., M.D., aged 69.—On the 7th inst., at Tipton, Staffordshire, from the effects of long foreign service, and the severe hardships he endured in the late campaign in South Africa, William John Power, surgeon, 91st Regiment, in the 37th year of his age.—On the 8th inst., in St. James's-square, Dr. Drever, M.D., aged 76.

The Cholera.—It is melancholy to contemplate the ravages which this disease has made during the past week. In nearly all the large provincial towns and cities it has been on the increase; and many villages, which in 1832 escaped from this fearful epidemic, have now been attacked. Even Birmingham, which, from some unknown cause, was exempt from cholera seventeen years ago, has had two cases occur within the last few days amongst its inhabitants. In Scotland the epidemic exhibits little appearance of declining; and both in England and Scotland the mortality, in proportion to the attacks, is as great as ever. Medical science has striven in vain to check the malady, and it still continues the *opprobrium medicorum*. The Registrars' Report for London during the past week is as follows:—

The bills of mortality were commenced in the reign of Queen Elizabeth, and ever since the year 1603 have been published by authority in London. In this respect the English metropolis stands alone; no weekly tables of the causes of the death of every inhabitant are published in the capital of any other European State. Various motives for the measure have been assigned; but the fact of continuous publication from a period anterior to the appearance of newspapers and gazettes is remarkable and characteristic. It may be fairly referred to the natural inclination of the English people when they are in trouble to know the truth, and to see in figures the precise extent of their losses, although at times the sight might well make the courage of the bravest quail. On the continent "precautions have been used" in publishing the mortality from cholera in 1849, and the deaths from all causes have not yet been made known. The parish clerks of London in the 17th century, when the plague was at its height, counted the deaths and recorded their supposed causes; and the citizen, when the death-cart traversed the streets, anxiously studied the bill, surrounded by its gloomy symbolical border, announcing 8,297 deaths in a week out of a population of 600,000. In the hands of Price, Heberden, Willis, Bateman, and other statists, these records have disclosed the laws of mortality, and the causes of the insalubrity of the present cities.

One of their immediate advantages, however, is the evidence which they furnish that the most fatal and threatening plagues go through, with some perturbations, certain prescribed orbits; and, after raging for a given number of weeks, disappear. Plague, influenza, and cholera have been vanquished before; and to despair now would be as unreasonable as it was in the beginning of the year to deny that the cholera epidemic was impending. Those officers who are struggling with the triumphant enemy under every disadvantage will yet be victors; for, if they have art, they have also nature on their side.

The mortality in the week ending Saturday, September 8th, declined in the west and east districts of London, and increased slightly in the north and central districts, the deaths registered (1,741) on the north side of the Thames being 19 less than in the previous week. It was otherwise on the south side of the river, where the deaths in the week were 1,442! The total deaths registered in London were 3,183: of males, 1,460; females, 1,723. The deaths of females exceeded the deaths of males by 263, the reverse of the usual proportions. The deaths from cholera were 2,026; the numbers decreased in the districts of Shoreditch, Bethnal-green, Whitechapel, Stepney, Westminster; increased in Bermondsey, St. George, Southwark; Newington, Lambeth, Wandsworth, Camberwell, and Rotherhithe. The epidemic, which had been partially subdued, broke out again with terrible violence in Lambeth, where 279 persons died of cholera in the week.

Mr. Dawes, one of the Registrars of Lambeth, who has made careful inquiries on the subject, says: "At least half the cases I have registered were allowed to proceed unchecked until the most alarming and dangerous symptoms had manifested themselves; but lately more circumspection seems to have been used. Nevertheless, the cases are still numerous in which persons seem (from the painless nature of the attack) to be unconscious how highly necessary it is that immediate attention should be paid to it." People are so much accustomed to associate danger exclusively with pain, that the most fatal symptom, unaccompanied by pain, is neglected. They must, however, be taught to look upon painless diarrhœa with the anxiety that people in the plague looked upon the swellings called "tokens,"—which were also painless,—but with less fear; for the premonitory symptom now seems to be sent, not so much to announce death, as to give timely warning, and to call attention to that stage of the malady in which medicine can heal.

As medical skill is of most avail at the beginning and end of a fever, as the effect of the engines is most conspicuous at the outbreak and end of a conflagration, and as most energy is demanded when the wreck nears the shore, so it is in an epidemic, which, if it has not been checked at first, may yet be cut short, and combated with effect, as it declines. None of the measures of relief in any district should therefore be discontinued, but be prosecuted with redoubled vigour, until it has been completely subdued; and the districts which have not yet suffered greatly should immediately complete their preparations, for the time is short, and the evils of delay irreparable.

The Sanitary Reform of London and other Cities.—Mr. Jasper Rogers's proposition is worthy the earnest attention of all sanitary reformers. He remarks, "That every process hitherto attempted to deodorise human excretiæ has been attended by a proportionate injury to health, if done by exposure to the atmosphere, and by great decrease in value, if acted upon by fire-heat. Deodorisers have been *liquids*, and drying by evaporation, under any circumstances, deprives excretia of the main principles of value, viz., *its ammonia and the other volatile gases*. That *peat-charcoal*, prepared for the purpose, possesses the power of absorbing and retaining all those products, is the greatest absorbent known; will take up and retain above 80 per cent. of water, and above 90 volumes of those gases. Hence its inestimable capability for effecting deodorisation. That two-thirds or equal parts of prepared peat charcoal to the remaining portions of excretia will totally absorb the whole matter, producing a manure of almost incalculable value. The proportion may be less, even to one-third in some instances; and immediately on intermixture the manure becomes fit for transport in sacks, or bags, by any public conveyance. That carbon, hydrogen, nitrogen, oxygen, gluten, phosphoric acid, silicate of potash, chloride of sodium, carbonate of lime, sulphate of lime, and ammonia are *interwoven* into every grain of the charcoal." He proposes also, "that a tank be placed under the flag-way, or in any convenient position, *between* the house and the main sewer, into which the soil-pipe of each house can be made to discharge. The overplus water would filter away in a pure state through the charcoal deposited at the bottom of the tank, leaving almost all nutritive properties behind. Thus *water* only would reach the main sewers. If the number of tanks be objectionable, one can be made to receive the matter from several houses, or streets. A space, 30 feet by 20, sunk under the street, sufficient for mixing the manure of several streets. The operation may go on, at all times, uninterruptedly, by means of *filtering tanks*, into which the pipes may alternately discharge; and these tanks being situated to command an *intermixing machine*, the matter would drop directly into it and run from thence, in an apparently dry and perfectly inodorous state, into sacks, to be carted away. The removal of the excretory matter from that class of houses using cesspools. A drawer, containing a small quantity of charcoal to absorb the matter, to be placed under each privy, and the entire periodically removed in the same manner as *the ashes*. The establishment of closets and urinals open to the public, in 300 positions through the metropolis, in order to do away with the use of privies in cellars. The buildings to be under the care of two superintendents each, to be free to males of all classes. He shows, by adopting these plans, there would be an aggregate profit per annum of 3,829,387*l.*; that "the sewers of London would become waterways only, and the contemplated outlay for reconstruction be saved; the Thames be made pure, for no excretory matter could reach it; cesspools would no longer exist, nor disease arise from them; poisonous matter would cease to be driven from the wealthy to the poor; and that which now produces death in cities would be made to yield life and sustenance to the community at large."

The Association of District Medical-officers of Liverpool on Wednesday presented Mr. Frederick Cripps, of Soho-street, with an elegant silver salver of the most exquisite workmanship, and bearing an inscription.

Propagation of Yellow Fever.—The mystery attached to the propagation of yellow fever by fomites, and its importation by ships, as recorded by so many writers, may, Dr. Mitchell thinks, be elucidated by the supposition, that a tropical fungus, carried off in dark, damp, animalized holds of ships, or in the offensive clothes of sick or dead seamen, may be introduced into the summer clime of unaccustomed places, and there, as it came from, may go to, the shore, and be sometimes reproductive. Through this theory, Dr. Mitchell says, we can easily see why the disease may be imported, why it is imported rarely, and why it makes so slow a progress from the spot to which originally brought. It will also explain its non-contagious character, and even its occasional but rare visit to a village or hamlet. It may also account for its apparently spontaneous appearance in such places as Charleston, Savannah, and New Orleans, in which the winter may not be severe enough to kill the germs, but yet may so affect them as to make their re-action difficult or partial. It is only thus that we can comprehend how a perfectly healthy crew may bring with them, in the closed hold of their ship, the germs of disease, which, after their dismissal, may pestilentially affect the "stevedores," who discharge her, or only the labourers who disturb her ballast. We can thus, too, explain the usual pause between the first set of cases caught by visiters to the ship or labourers on board, and the attack upon the inhabitants of the vicinity. This curious interval, noticed by almost every writer, occupies about ten to fifteen days, whilst the period of incubation, after exposure to

a known source of infection, is only five days. This interval is only to be explained by the supposition that germs of some kind have gained a footing on shore, and have germinated and grown more numerous. It is the crop in the hold which produces the first set of cases. It is the crop on the land which causes the second. It is only through the action of some organic cause that we can explain the tenacity of the attachment of yellow fever to certain ships, and these, too, among the cleanest and best aired vessels in the British service. The Sybille had three several epidemic attacks between the 23rd of June, 1829, and the middle of April 1830. Two of these occurred while at sea. In the West India service, certain ships have usually an outbreak on going into even a healthy harbour.

METEOROLOGY OF THE WEEK.

Day.	Mean of Barometer.	Mean of Thermometer. Dry.	Ditto. Dew Point.	Difference between the Mean Temperature of the day and the same day on an average of 7 years.	General Direction of Wind. A.M.	General Direction of Wind. P.M.	Amount of Horizontal Movement of the Air. Miles	Rain in Inches.	Electricity.*
Sunday	29·608	66·8	56·6	+ 7·5	S.	S. & E.	50	0·20	Nothing shown.
Monday	29·795	65·3	57·6	+ 6·5	S.S.E.	E.	20	0·00	P. and tension variable between 3 and 9 p.m.
Tuesday......	29·918	66·0	61·0	+ 7·5	E.	E.N.E.	53	0·42	P. and tension variable.
Wednesday.	29·948	65·9	58·1	+ 7·4	N.	N.E.	75	0·0·	P. and tension variable.
Thursday ...	29·941	65·7	55·3	+ 7·2	N.	N.E.	115	0·00	Nothing shown.
Friday	29·989	59·9	48·4	+ 1·2	N.N.E.	N.E.	70	0·00	Nothing shown.
Saturday ...	29·959	55·9	46·7	— 0·3	N.	N.E.	70	0·00	P. and tension strong between noon and 9 pm.
Means ...	29·884	64·1	54·8	+ 5·3	N.		SUM 455	SUM 0·63	

* In this Column, A. stands for Active; N. for Negative; and P. for Positive.

MORTALITY TABLE,

(Metropolis.)

For the Week ending Saturday, Sept. 8, 1849.

CAUSES OF DEATH.	Total.	Average of Five Summers.
ALL CAUSES	3183	1008
SPECIFIED CAUSES	3181	1005
Zymotic (or Epidemic, Endemic, and Contagious) Diseases	2469	302
SPORADIC DISEASES:		
Dropsy, Cancer and other Diseases of uncertain or variable seat ...	40	44
Tubercular Diseases	162	190
Diseases of the brain, Spinal Marrow, Nerves, and Senses	120	119
Diseases of the Heart and Blood-vessels	30	
Diseases of the Lungs, and of the other Organs of Respiration	85	81
Diseases of the Stomach, Liver, and other Organs of Digestion	73	76
Diseases of the Kidneys, &c.	15	11
Childbirth, Diseases of the Uterus, &c.	14	7
Rheumatism, Diseases of the Bones, Joints, &c.		
Diseases of the Skin, Cellular Tissue, &c.		2
Malformations		3
Premature Birth and Debility		22
Atrophy		25
Age		43
Sudden		
Violence, Privation, Cold, and Intemperance		36
Causes not Specified		3

The following is the number of Deaths occurring from some of the more important special causes;—

Apoplexy	20	Heart	29	Phthisis	1
Bronchitis ...	27	Hooping-cough	23	Pneumonia ...	
Cholera.........	2026	Hydrocephalus	38	Scarlatina	
Childbirth	6	Influenza	...	Small-pox	
Convulsions...	46	Liver	12	Stomach	
Diarrhœa	272	Lungs	5	Teething	
Dropsy	14	Measles	14	Typhus	
Erysipelas ...	9	Paralysis	21	Uterus	

BIRTHS AND DEATHS.

	Births.	Deaths.	Deaths over Births.
Males ...	636	1460	724
Females	665	1723	1058
Total......	1301		1882

TO CORRESPONDENTS.

"Scriptor."—(1) The rate of mortality from Cholera in this country is considerably increased by the tendency to consecutive fever, which does not occur so frequently in India. (2) Dissections have thrown but little light on the proximate cause of the disease.

"A Bartholomew Student."—The University of Oxford has the power of granting medical degrees, and of licensing to practise in medicine; and a person may obtain a degree in physic without having the license to practise, for which he pays a special fee. The university, however, has not the power of licensing to practise in London, or within seven miles of it, and its graduates do not become members of the College of Physicians, except by undergoing a fresh examination.

"Coryceus."—We know of only two diseases which produce metallic tinkling—pneumo-thorax, with a fistulous communication between the pleura and the lung; and in large excavations of the pulmonary organ, empty, or nearly so, within the walls, freely communicating with the bronchial tubes, and near the surface examined. Of these the former is the much more frequent cause of metallic tinkling; in both diseases, however, it accompanies the inspiration only, and requires for its production a large cavity, in which a little fluid exists, with reverberating walls communicating freely with the bronchial tubes.

"J. B. L."—It is Dr. Baumgaertner who makes the statement. The caseous matter of tubercles consists of small granular bodies, which are not very dissimilar from the formative globules of the frog's ovum, such as they appear immediately after the formation of granules. If the caseous matter be in a more advanced stage of softening, it is found to consist almost entirely of globules, or cells containing a granule, their parietes being also somewhat granular. In proportion as the tubercular matter approaches the stage of suppuration, the granular bodies disappear, and the pus globules, having a cell contained in a cell, become more numerous and interspersed with transparent molecules.

"Westmonastrensis."—(1) Singultus, as a symptom, is little to be relied on, for in the same disease it may arise from a variety of causes. (2) It is said to be produced by a sudden contraction and depression of the entire diaphragm, and the peculiar and abrupt sound that accompanies it, by air suddenly and forcibly entering at the mouth or nostrils, to replenish the void caused by the sudden retraction of the root of the tongue.

"Truth seeker."—Post mortem contractility of the muscles is a phenomenon occasionally observed in persons who have died from cholera or yellow fever. A singular case is recorded of a man, who, after respiration had ceased, and the body had been quiescent in every part for a time, subsequently was agitated in the following manner.—The left hand was first carried by a regular motion to the throat, then to the crown of the head; the right arm followed the same course on the right side; the left hand was then carried back to the throat, then to the breast, reversing all its motions. The right hand and arm performed exactly the same movements,—in all, eight consecutive, identical, equable motions, in apparently equal times, and with a regularity indicative of volition, though before death the man was totally insensible.

"Senex."—The subject is worthy of close investigation. It has been thought by some, that the disposition to attacks of syphilis and gonorrhœa are influenced by season. Many surgeons have noticed that venereal cases occur more frequently at one period of the year than another; but further researches are required, in order to determine the degree in which the more frequent occurrence of syphilis is to be ascribed to the effect of season.

"Provincial."—The Queen's College at Birmingham was founded in 1828, was incorporated in the seventh year of the present Sovereign, and received a supplemental Charter three years afterwards.

"G. B., Gosport."—Lymph for vaccination is found to be most entirely efficacious when taken between the period of its production and the eighth day inclusive. It has been found, however, that even the dried crusts have frequently communicated the perfect disease, especially in hot climates.

"Scotus."—An assistant-surgeon having served six years in India is permitted to retire on the half-pay of an ensign if his constitution is so impaired as to prevent the possibility of his continuing in India. Medical officers who have served less than three years in India, and have lost their health there are entitled to an allowance from Lord Clive's fund.

"Cantab."—1. The patronage of the University of Edinburgh is vested, by the Charter, in the Lord Provost, magistrates, and councillors of the city. 2. The Chairs of Clinical Surgery, Military Surgery, Medical Jurisprudence, and Natural History, are in the patronage of the Crown.

"Q."—The law is imperative in such a case; and a prosecution can only be commenced with a prospect of a successful issue, by having proofs that the person has infringed the Apothecaries' Act.

"Omicron."—The Hospital was founded and endowed solely by Thomas Guy.

"A Medical Student, City."—In the ordnance medical department no applicant is received on the list of candidates before he is twenty-two, or retained on it after he is twenty-five years of age. He must also be unmarried.

"An Occasional Contributor."—The offer is declined with thanks.

"Medicus."—The examination for the degree of Doctor of Medicine in the University of London will take place on the fourth Monday in November.

"An Apprentice."—The rules can be obtained on application at the College.

"An Old Subscriber."—We cannot decide the point.

"J.R.S."—Certainly not.

"Candidatus."—Merit is not sufficient alone, it must be associated with influence to insure success.

"L.M."—Water in the lungs of the drowned is only occasionally met with; for the glottis in every case is not so firmly closed as to prevent the introduction of a portion of liquid into the pulmonary cells.

"Josephus."—The hand or foot uncovered is not considered a weapon in law.

A Young Chemist."—Yes; platinum when perfectly clean acts so rapidly on oxygen and hydrogen gases, mixed in the proportion of 1 to 2, and at common temperatures, that the metal often becomes red hot, and kindles the mixture. Handling the platinum, wiping it with a towel, or exposing it to the atmosphere for a few days, suffices to soil the surface of the metal, and diminishes or prevents its action.

"Zeta."—We cannot give the information sought.

"Sanitas."—There is no such officer attached to the University.

"Dr. Pearson," of Maryport, writes us in reference to the doings of the Coffinites in his neighbourhood, who are using their dangerous nostrum, Lobelia Inflata, in the treatment of cholera. He says —"Not many days ago, I was called to a poor man suffering from an attack of cholera; after prescribing, I left, but returned shortly after, and found these parties in attendance: the man died. On Saturday last, I was called at six a.m. to visit the wife of a mechanic. I found her labouring under the symptoms of cholera; after prescribing, and ordering her to be sent to the Cholera Hospital, I left. On my return I found that when the husband left my house with the medicine, he went to one of the agents of the 'Medico-Botanic Club,' (a shoemaker), who attended; I did not see the woman again; but the husband told me that he had not given any of my medicine. The woman lived about eleven hours after I first saw her. In both these cases I refused a certificate of the cause of death. How easy will it be, with such a state of things, for parties tired of maintaining their relatives to rid themselves of the burden, and then urge as the plea that they did it all for the best! And do we not every day hear of parties being poisoned for a paltry burial fee of a few shillings? Does the law afford no remedy for such a state of things? To me there appears to be none; for if the medical attendant, who alone can know these things, interfere, he is compelled to attend to give evidence in a Court of Justice, where he must silently listen to any insult or insinuation the counsel may think proper to put upon him; and this is said to be done for the ends of justice; and yet, if he silently permits these things to be perpetrated, he undoubtedly incurs a serious responsibility. I am informed, that these people, in order, as they think, to evade the law, do not give the medicine with their own hands, but visit the patient, prescribe, and then tell the friends that they may give it or not, as they think proper. It would be well that both they and the friends should remember, that if they undertake the treatment of a dangerous disease, and are guilty of gross ignorance or neglect, they are both guilty of manslaughter. But if, after calling in a qualified practioner, they withhold from the patient the medicine prescribed, and substitute for it that of an ignorant person, it would, I think, justly become a question whether they had not been guilty of a still more serious crime."—We fear there is no law that will touch these Coffinites. Their name is expressive of their deeds, and it is a matter of great regret that there are so many persons ready to fall into the snares which quacks set for them. The poor and ignorant need protection, and the Government ought to use every means to prevent human life being sacrificed by quacks. We hope the new Medical Reform Bill will have a stringent clause against unlicensed practitioners.

A Young Subscriber" will find all the information he seeks in Mr. Quekett's excellent work on the Microscope.

Mr. J. H. Cooke, Shrewsbury," is thanked for his obliging offer, but the pamphlet has already been received and noticed in the columns of the "Medical Times."

Dr. Burton, of Walsall," recommends the following formula for diarrhœa, which he says has been universally successful in his hands during the last sixteen years.—℞ Tinct. opii.; acid. acet. dilut. (P. L.) aa., ℨij.; aquæ. distill., ℥viiss; M. sum. coch. mag. omni 2 vel 3 horâ; repetand. si urgeat diarrhœa.

Mr. E. M. D., Aires, Galway."—The papers will be continued till completed.

Scalpel."—It is one of those tricks by which some endeavour to get themselves into practice.

We are obliged to Mr. O'Neill for his communication.

Dr. Balfour" has our thanks; we will write to him privately.

Seneca."—Received.

Dr. Townsend."—Communication received.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL, LONDON.

The Session 1849-50 will Commence

on MONDAY, OCTOBER 1st, with an INTRODUCTORY ADDRESS, by Dr. BENCE JONES F.R.S., at Half-past One o'Clock.

DESCRIPTIVE and SURGICAL ANATOMY — Mr. PRESCOTT HEWITT and Mr. POLLOCK.
PHYSIOLOGY and GENERAL ANATOMY — Mr. ATHOL JOHNSON.
PRACTICAL ANATOMY — Mr. POLLOCK and Mr. ATHOL JOHNSON.
CHEMISTRY—Mr. NOAD and Dr. BENCE JONES, F.R.S.
PRACTICAL CHEMISTRY—Mr. NOAD.
MATERIA MEDICA—Dr. PITMAN.
MEDICINE—Dr. NAIRNE and Dr. PAGE.
SURGERY—Mr. TATUM.
MIDWIFERY—Dr. ROBERT LEE, F.R.S.
MEDICAL JURISPRUDENCE—Dr. FULLER and Mr. H. C. JOHNSON.
BOTANY—Mr. HENFREY, F.L.S.

Clinical Lectures on Medicine and Surgery are given by the Physicians and Surgeons of the Hospital during the Winter and Summer Sessions.

Some lectures on the application of Chemistry to the Diagnosis and Treatment of Disease will be given by Dr. BENCE JONES, F.R.S.

Practical Chemistry is taught in the Laboratory of the School.

Practical Pharmacy, under the superintendence of the Apothecary of the Hospital.

A Course of Lectures on MIDWIFERY will be given by DR. ROBERT LEE, F.R.S., during the Winter Session of 1849-50.

The SUMMER SESSION will COMMENCE MAY 1st.

SCHOLARSHIPS, PRIZES, &c.

At the end of the Summer Session, Examinations will be held for two Scholarships, of the value respectively of £40 and £20 per annum, each tenable for two years.

Examinations of all the classes for Prizes and Certificates of Merit also take place, and Prizes given by Sir Benjamin Brodie, Dr. Chambers, and Dr. Seymour, are awarded.

Some of the Lecturers and other gentlemen connected with the Hospital receive students to reside with them.

Further information may be obtained from any of the Lecturers; or from the Apothecary of the Hospital, who is authorized to enter the names of students.

ST. THOMAS'S MEDICAL SESSION.

The Introductory Address will

be delivered by Mr. SOLLY, on MONDAY, 1st of OCTOBER, 1849, at Eight o'clock p.m.

Gentlemen have the option of paying £40 for the first year, a similar sum for the second, and £10 for each succeeding year; or of making special entries to Lectures, or to Hospital Practice.

SCHOLARSHIPS AND PRIZES FOR 1849-50.

A SCHOLARSHIP of £20 for the best Voluntary Classical and Mathematical Examination, at the commencement of the Student's Hospital attendance.

TWO SCHOLARSHIPS, for first year's men, each of the value of £20 a year, and tenable for three years.

The TWO HOUSE-SURGEONS, the DRESSERS, and the RESIDENT ACCOUCHEUR, will be selected according to merit, and provided with rooms and commons in the Hospital, free of expense.

The PRESIDENT'S PRIZES: The first, 10 guineas the second, 5 guineas.

TWO PRIZES for CLINICAL MEDICINE, and PRIZES and CERTIFICATES of HONOUR, in each of the different Classes.

DR. ROOTS'S PRIZE: 10 guineas. One of the GOVERNORS, a PRIZE of 5 guineas.

The TREASURER'S PRIZES: The first, a Gold Medal. The second, 5 guineas.

The TREASURER'S PRIZE, to be awarded in 1851 £100 for the best Essay, including Original Researches on Organic Chemistry, in its relation to Pathology and Practical Medicine. The special subject of the Essay is, "On the Chemical and Physiological Action of Mercurial Preparations."

MEDICAL OFFICERS AND LECTURERS.

Dr. Roots, Consulting Physician; Dr. Barker, Dr. Leeson; Mr. Green, Mr. South, Mr. Mackmurdo, Dr. Goolden, Dr Risdon Bennett, Dr. Cohen, Mr. Solly, Mr. Le Gros Clark, Mr. Dixon, Mr. Simon, Dr. Waller, Dr. Gregory, Dr. E Meryon, Mr. Grainger, Mr. Saunders, Mr. Rainey, Mr. G. Luxford, and Mr. Adams.

COLLEGIATE ESTABLISHMENT.

Under the direction of the Treasurer and Almoners of the Hospital, houses have been fitted up as residences for the Students, and a College Hall, where commons will be provided.

To enter, or to obtain further information, apply to Mr Whitfield, Resident Medical Officer, at St. Thomas's Hospital.

Middlesex Hospital School of

MEDICINE. SESSION 1849-50.

HOSPITAL.

PHYSICIANS—Francis Hawkins, M.D.; Mervyn A. N. Crawford, M.D.; Seth Thompson, M.D.

PHYSICIAN-ACCOUCHEUR—Charles West, M.D.

ASSISTANT-PHYSICIAN.

Robert Gordon Latham, M.D., F.R.S.

SURGEONS—Mr. Alex. Shaw; Mr. Campbell De Morgan Mr. C. H. Moore.

ASSISTANT-SURGEON—Mr. Mitchell Henry.

SURGEON-DENTIST—Mr. Tomes.

APOTHECARY—Mr. Corfe.

The Hospital has recently been much enlarged, and important alterations and improvements have been introduced in its internal arrangements. It now receives 285 in-patients, and contains wards specially appropriated to the admission of cases of syphilis and of cancer, in the male and female, and of uterine disease. Number of out-patients, 9,316.

Clinical Clerks and Dressers are selected by the Physicians and Surgeons of the Hospital from the most deserving pupils without additional fee.

A Senior and Junior House-Surgeon are elected half-yearly from the Dressers, and are provided with board and residence in the Hospital, free of expense.

Clinical Lectures will be given during the Winter and Summer Sessions, and Clinical Prizes will be awarded for reports of cases.

Students who are desirous of entering to the Medical and Surgical Practice of the Hospital, apart from the Lectures, for the periods required by the College of Surgeons and Apothecaries' Company,—viz., eighteen months of Medical, and three years of Surgical Practice,—may do so by making one payment of £30.

Instruction in Practical Pharmacy, with opportunities of Dispensing, is given by the Apothecary.

LECTURES.

WINTER SESSION, commencing MONDAY, OCT. 1.
PRINCIPLES and PRACTICE of MEDICINE—MERVYN A. N. CRAWFORD, M.D., and SETH THOMPSON, M.D.
PRINCIPLES and PRACTICE of SURGERY — Mr. ALEXANDER SHAW.
PHYSIOLOGY and GENERAL ANATOMY—Mr. CAMPBELL DE MORGAN.
DESCRIPTIVE and SURGICAL ANATOMY — Mr. CHARLES H. MOORE.
PRACTICAL ANATOMY and DEMONSTRATIONS—Mr. THOMAS WILLIAM NUNN.
MORBID ANATOMY—Mr. MITCHELL HENRY.
CHEMISTRY—Mr. THOMAS TAYLOR and Mr. CHAS. HEISCH.

The Dissecting room is open Daily from Eight o'clock a.m. to Five o'clock p.m., and attendance is given for six hours daily.

SUMMER SESSION, Commencing MAY 1, 1850.
MIDWIFERY and DISEASES of WOMEN and CHILDREN—Mr. C. METCALF BABINGTON.
MATERIA MEDICA and THERAPEUTICS — A. P. STEWART, M.D.
FORENSIC MEDICINE — ROBERT GORDON LATHAM, M.D., F.R.S.
BOTANY—ROBERT BENTLEY, F.L.S.
MORBID ANATOMY—Mr. MITCHELL HENRY.
DEMONSTRATIVE ANATOMY—Mr. THOMAS WILLIAM NUNN.
PRACTICAL CHEMISTRY—Mr. THOMAS TAYLOR and Mr. CHARLES HEISCH.

All Students attending this Course will be required to pay an additional fee.

General Fee for attendance on the Hospital Practice and Lectures required by the College of Surgeons and Apothecaries' Company, £75.

This sum may be paid by instalments of £30 at the beginning of the first Session; £30 at the beginning of the second Session; and £15 at the beginning of the third Session.

Prospectuses and further information may be obtained on application to Mr. De Morgan, at the Hospital daily, from Twelve to Two; to any of the Lecturers; or to Mr. Corfe, the Apothecary, at the Hospital.

To Druggists and the Medical

PROFESSION.—W. and S. GAINES, late Dickson, Anderson, and Simmons, Seedsmen and Herbalists, Covent Garden Market, beg respectfully to offer Leeches, and all other articles of the best quality at the lowest prices.

*** Importers of Carrageen Moss.

Dr. Stevens' Saline Treatment

of CHOLERA.—Dr. Stevens having distinctly shown, in the "Medical Times" for September 1, No. 518, that under the pure and unmixed saline treatment as proposed by himself, the mortality in Cholera has been but 6 per cent., Mr. HOOPER begs to announce, that he has prepared the SALTS as recommended by Dr. Stevens, and that they are to be obtained, with full directions for use, by post or otherwise, at 7, Pall-mall East, and at 55, Grosvenor-street, London.

UNIVERSITY COLLEGE, LONDON.

FACULTY OF MEDICINE.

SESSION 1849-50.

THE CLASSES will COMMENCE on the 1st of OCTOBER,

when Professor WALSHE will deliver an INTRODUCTORY LECTURE, at Three o'Clock.

Classes in the order in which Lectures are delivered during the day:—

ANATOMY—PROFESSOR QUAIN and PROFESSOR ELLIS.
ANATOMY and PHYSIOLOGY—PROFESSOR SHARPEY, M.D.
CHEMISTRY—PROFESSOR GRAHAM.
COMPARATIVE ANATOMY—PROFESSOR GRANT, M.D.
SURGERY—PROFESSOR ARNOTT.
MIDWIFERY—PROFESSOR MURPHY, M.D.
MEDICINE—PROFESSOR WALSHE, M.D.
PRACTICAL ANATOMY.—The Pupils will be directed in their studies during several hours daily by PROFESSOR ELLIS and Mr. CADGE, Demonstrator.
ANALYTICAL CHEMISTRY.—PROFESSOR A. W. WILLIAMSON, Ph.D., 9 a.m., 4 p.m.

SUMMER TERM.

The following subjects will be taught during the Summer Term:—

BOTANY—DR. LINDLEY.
MIDWIFERY—DR. MURPHY.
PATHOLOGICAL ANATOMY—DR. JENNER.
COMPARATIVE ANATOMY and ZOOLOGY—DR. GRANT.
FORENSIC MEDICINE—DR. CARPENTER.
PRACTICAL CHEMISTRY—MR. WILLIAMSON.
MATERIA MEDICA—PROFESSORSHIP VACANT.

Hospital Practice daily throughout the year:—

PHYSICIANS—DR. WALSHE, DR. PARKES.
ASSISTANT PHYSICIAN—DR. GARROD.
OBSTETRIC PHYSICIAN—DR MURPHY.
SURGEONS—MR. ARNOTT, MR. QUAIN, MR. MORTON.
ASSISTANT-SURGEONS—MR. ERICHSEN, MR. MARSHALL.
DENTAL SURGEON—MR. DURANCE GEORGE.

Medical Clinical Lectures by Dr. Walshe, also by Dr. Parkes, Professor of Clinical Medicine, whose special duty it is to train the pupils in the practical study of disease at the bedsides during the visits, and also by a series of lessons and examinations on the physical phenomena and diagnosis of disease to classes consisting of a limited number, and meeting at separate hours.

Surgical Clinical Lectures, by Mr. Arnott, and specially by Mr. Quain.

Prospectuses may be obtained at the Office of the College.

Residence of Students.—Several of the Professors receive students to reside with them; and in the office of the College there is kept a register of parties unconnected with the College who receive boarders into their families; among these are several medical gentlemen. The register will afford information as to terms and other particulars.

At University Hall, an institution in the neighbourhood of the College, collegiate residence, under the superintendence of a Principal, is provided for a limited number of students.

WALTER H. WALSHE, M.D., Dean of the Faculty.
CHAS. C. ATKINSON, Secretary to the Council.

August, 1848.

The Lectures to the Classes of the Faculty of Arts commence on the 16th of October.
The Junior School opens on the 25th of September.

British Medical Agency, 52,

Regent-street, London, adjoining the County Fire and Life office.

To Surgeons and Chemists.—Gentlemen requiring the disposal or purchase of good and established practices and businesses, can readily effect the same by partnership or otherwise, by furnishing full and necessary particulars.

That qualified Visiting and Dispensing Assistants may always be immediately procured, or selected for Gentlemen residing at a distance from the metropolis, possessing not only professional attainments and abilities, but also assiduity, good moral character, manners, and address, and whose references have been subjected to the strictest investigation previous to registering their names.

To insure the immediate services of efficient and suitable assistants, and will also prevent the loss of time, trouble, and disappointment which has hitherto been attended with great personal inconvenience and expense to many of the profession, all communications to be made to Mr. Wilson, from Eleven to Five.

ORIGINAL LECTURES.

LECTURES

ON

THE CHEMISTRY OF THE POISONS;

OR, ON

PRACTICAL TOXICOLOGY.

SHOWING THE APPLICATIONS OF CHEMISTRY TO THE DISCOVERY OF CRIME.

By H. LETHEBY, M.B., Lond:
Lecturer on Chemistry at the Medical College of the London Hospital.

LECTURE VIII.

Impurities in commercial sulphuric acid.—(a) Compounds of nitrogen and oxygen.—(b) Sulphurous acid.—(c) Arsenious and arsenic acids.—(d) Sulphate of lead.—(e) Other saline impurities.—(f) Carbonaceous matter.—(g) Selenious acid—Sources of these impurities.—Dangers and disadvantages dependent on their presence.—Modes of recognising them, &c., &c.

Common oil of vitriol of English commerce is a very impure preparation; for it always contains one or more of the following substances:—namely, sulphurous acid, nitric acid, hypo-nitrous acid, deutoxide of nitrogen, sulphate of lead, lime, potash, soda or iron, organic matter and arsenic. And as you cannot ever venture to make use of such an impure liquid either for chemical or medico-legal researches, without seriously endangering the evidence which may be deduced therefrom, it is necessary that you should be acquainted, not only with the means of recognising these impurities, but also with the modes to be employed for the purpose of removing them from the liquid in question. I shall, therefore, occupy your attention during the present Lecture, in discussing this most important part of our subject.

IMPURITIES IN COMMERCIAL SULPHURIC ACID.

(a) *Compounds of Nitrogen and Oxygen.*—These compounds are nearly always present in crude sulphuric acid; and they owe their origin to one of two sources; they are either derived from the nitric acid, nitrous acid, and binoxide of nitrogen, which are employed as oxydising agents in the manufacture of oil of vitriol; or they are deduced from the aqua fortis which is so commonly made use of for the purpose of destroying the dark colour occasioned by organic matter in the acid. In both cases, however, the impurities are easily recognised by the following characters. When oil of vitriol contains a large amount of nitrous or hyponitrous acid, it effervesces upon the addition of a little water, and evolves red fumes, which have an acid pungent odour. I have of late found that many of the commercial samples of oil of vitriol exhibit this character; and I am led to think that such acids have been used in the rectification of nitric acid for the manufacture of gun cotton. When the vitriol contains a smaller proportion of these azotic compounds, it produces a dark reddish tint on adding it to a solution of proto-sulphate of iron or green vitriol. This tint varies from a light rose red up to a deep olive brown or black, according to the amount of azotic compound present; and the discoloration may be produced either by nitric acid, nitrous acid, hyponitrous acid, or even the deutoxide of nitrogen. If it be dependent on the first-named compound, the oil of vitriol will not affect the colour of a solution of bichromate of potash; but if it be due to the presence of a lower oxide of nitrogen, this solution will, upon adding it to sulphuric acid, acquire an emerald green colour, in consequence of the reduction of chromic acid and the formation of a green sesqui-salt of chromium. In order to demonstrate this fact, we will take a weak solution of bichromate of potash, and add it drop by drop to the impure acid: as you will here observe the yellow colour of the solution is instantly changed into a green one. Other oxydising agents may likewise be made use of for the purpose of recognising the presence of the lower oxides of nitrogen: for example, permanganate of potash, and deutosulphate of manganese are each robbed of their oxygen, and, consequently, decolorised when they are brought into contact with any of these impurities; or we may take advantage of a suggestion which has been thrown out by Professor Schönbein, and employ a few grains of sulphur as a means of exhibiting the presence of free nitric acid for, as this chemist has remarked, when nitric and sulphuric acids are mixed, the resulting compound nitro-sulphuric acid, has the power of oxydising sulphur and many other substances, with considerable energy. He says, in fact, that the mixture behaves towards these bodies as a kind of *aqua regia*, in which chlorine has been replaced by peroxide of hydrogen. In the course of his investigations, he found that nitro-sulphuric acid acts rapidly upon sulphur even at ordinary temperatures; and he states, that when flowers of sulphur are stirred into a fluid which contains only one drop of nitric acid in two ounces of pure oil of vitriol, a perceptible quantity of sulphurous acid is evolved,—a gas which may be recognised either by means of the starch and iodic acid test before mentioned, or by its decolorizing a piece of paper which has been made blue by iodide of potassium, starch, and an atmosphere of chlorine. This re-action, however, is not manifested when the acid solution is diluted with water before the introduction of the sulphur, and it is, therefore, not always applicable to the discovery of nitric acid.

As regards the delicacy of the green vitriol test, it may be said, that a solution of protosulphate of iron will determine the presence of the one-millionth part of any oxide of nitrogen; and, in order to witness its reactions, you are to operate in the following manner:—Take about one drachm and a half of strong sulphuric acid, mix it with about ten or fifteen drops of water, and let it cool; then add, drop by drop, about half a drachm of a saturated solution of protosulphate of iron, taking care that the temperature of the mixture does not rise to any great extent, and, as you will here remark, the colour of the liquid will change from a rose or violet red up to an olive or deep brown, according to the quantity of azotic compound present. In performing this test it is well to notice the colour of the ferruginous solution as it floats upon the heavier stratum of sulphuric acid, and to remark whether the colour is deepened at the moment of mixing the liquids.

If you were to inquire of me concerning the disadvantages which result from the presence of these nitrogenous impurities, I should have to tell you, that when sulphuric acid contains a rather large proportion of any compound of nitrogen, it is unsuited for the development of arseniuretted and sulphuretted hydrogen, two gases which are frequently employed in analytical research, for the oxygen of the impurity appropriates the hydrogen of these gases, and so prevents them from being evolved; but I cannot say that the presence of a small quantity of nitric acid is a matter of any great moment; in fact, I have been led to think that it is rather advantageous than otherwise, as it insures the oxidation of any sulphurous acid which may have remained in the liquor at the time of its manufacture.

(b) *Sulphurous Acid* is another very common impurity in oil of vitriol; for, whether sulphuric acid be obtained by the combustion of sulphur, or by the distillation of green vitriol, this impurity is almost sure to be present in it, and, under such circumstances, the acid cannot be used in Marsh's apparatus without producing results which are very likely to baffle the skill of the unwary. In order to illustrate this I must anticipate our labours a little. When dilute sulphuric acid is poured upon granulated zinc, hydrogen gas is evolved, and, if arsenic be present in any of the materials used, the hydrogen so liberated will instantly seize on the elements of the poison and pass off as arseniuretted hydrogen, a compound which is usually recognised by the two following characters:—First, if it be passed through a solution of nitrate of silver, it renders the liquid dark and turbid; and, secondly, if it be heated as it traverses a tube of Berlin glass, it is decomposed, and deposits a bright ring of metallic arsenic. Now, these are the two characters which are commonly relied on as proofs of the existence of arsenic in one or other of the matters employed; but, as I will now proceed to show you, the presence of a little sulphurous acid in the oil of vitriol used in the experiments will give rise to somewhat similar looking results. I have here a dilute acid which contains a small quantity of the impurity in question, and although it is perfectly free from arsenic, yet, if I add it to a few pieces of granulated zinc, and transmit the gas so generated through a solution of nitrate of silver, it will instantly blacken the liquid, and produce an appearance which exactly resembles that witnessed in the former experiment. So, also, if it be heated as it traverses a glass tube, it will deposit a yellowish ring, which is very likely to perplex the judgment of the unskilful. The rationale of these actions is the following:—When hydrogen gas is liberated in a liquid containing sulphurous acid, the latter compound is decomposed, and its sulphur, by entering into union with the more powerful electro-positive element—hydrogen, forms sulphuretted hydrogen,—a gas which has the property of darkening the salts of silver, and of being decomposed when it is submitted to a red heat. Taking advantage of these re-actions, the chemist is enabled to discover with much certainty the existence of sulphurous acid in oil of vitriol; for if we add the impure liquid to a little zinc, and test the evolved gas by means of a piece of paper moistened with sugar of lead, we can instantly detect the merest trace of sulphuretted hydrogen, a compound which is never produced when both the acid and zinc are pure.

Again: the researches of Pelletier, Heintz, Girardin, Fordos, and Gelis, &c., have pointed out another mode whereby we may determine the presence of sulphurous acid in any acid mixture. Take about two or three drachms of the suspected liquid, add a few drops of water, and then about one drachm of an acid solution of proto-chloride of tin; immediately cover the glass containing the mixture with a piece of paper moistened at one spot with a solution of acetate of lead; allow the paper to remain in this state for ten or fifteen minutes, then examine it both by reflected and transmitted light, and observe if it be darkened at the spot where it was moistened with the lead solution,—if so, the liquid contains sulphurous acid. In order to explain the action of this test, I must refer to the investigations of Wackenroder; from which it appears, that an atom of sulphurous acid (SO^2), and one of chloride of tin ($Sn\ Cl$), are mutually decomposed, forming sulphuret of tin ($Sn\ S$), and an oxychloro-compound, which is of no importance to us. The sulphuret thus produced is not, however, a permanent compound; for it is rapidly decomposed by the free acid of the liquor, and converted into sulphuretted hydrogen, which escapes, and a salt of tin which remains in solution. In speaking of this test, Wackenroder says, that it is extremely delicate; and that by resorting to it, he has found that most of the better kinds of sulphuric acid exhibit traces of this impurity. It must be borne in mind, however, that all the other oxyacids of sulphur, excepting oil of vitriol, manifest the very same re-actions when they are treated in this manner.

(c). *Arsenious and Arsenic Acids.*—The presence of these acids in oil of vitriol is a matter of the most serious consequence to the medical jurist, inasmuch as he is accustomed to employ large portions of sulphuric acid in several of the processes now resorted to for the detection of arsenic in organic mixtures; and, as you will readily imagine, unless he can be quite certain that the acid made use of in the analysis is perfectly free from this poison, he can never place the slightest reliance upon the results of his operations, or even venture to deduce an opinion therefrom for the guidance of a magistrate or jury.

Now, as some of you may be questioned concerning the source of this poison, it is proper that I should direct your attention to the following facts.

Prior to the year 1838, manufacturers were accustomed to use Sicilian sulphur in the production of oil of vitriol, but during that year, in consequence of a monopoly, which was granted by the Sicilian Government to a French Company, for the preparation and sale of this article, foreign sulphur became

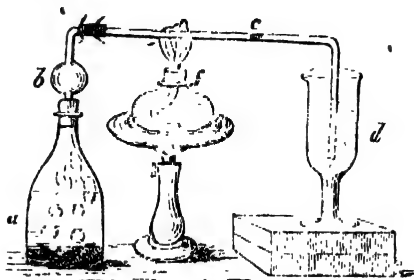
so dear that it could not be profitably employed for the purpose in question. Fortunately for all parties, the monopoly is now suppressed, but before this could be effected we were thrown, to a very great extent, upon the resources of our own country and iron pyrites, a mineral hitherto considered a an almost useless article, was suddenly called into requisition, and largely used for the manufacture of sulphuric acid. Since that period the employment of iron pyrites for this purpose has become almost universal, and the mineral is now largely obtained from the southern and south-eastern coasts of England, from the refuse heaps which have accumulated for centuries in the mining districts of Cornwall, and from the county of Wicklow and other places in Ireland. All these varieties of the mineral are more or less contaminated with arsenic; in fact, I have detected as much as 10 per cent. of metallic arsenic in many of the Cornish specimens, and, as this poison is volatilised, and undergoes combustion in the same way as sulphur during the manufacture of oil of vitriol, it is impossible to employ these minerals for such a purpose without having the acid highly charged with the poison in question. In one manufactory, which I had an opportunity of inspecting a few years since, I noticed that the bottom of the lead chamber was covered to a considerable depth with arsenical and orpimental mud, and I here show you a mass of crude arsenic, which was obtained from the chimney of a furnace in which copper and iron pyrites had been roasted. These, therefore, are the great sources of arsenic in oil of vitriol, and, as you may easily imagine, the proportion of the poison therein may often be very considerable. Mr. Scanlan asserted, at one of the meetings of the Pharmaceutical Society, held in the month of July, 1844, that he had procured as much as one grain and a half of sulphuret of arsenicum from 2,000 grains by measure of sulphuric acid. Dr. Rees has obtained between twenty-two and twenty-three grains of this poison from a pint of oil of vitriol; and Mr. Watts states, that the amount may even reach to thirty grains in the pint. M. Dupasquier, who has published a long paper in the *Journal de Pharmacie* on the contamination of oil of vitriol with arsenic, says, that although the amount of this impurity is subject to great variation, yet it may be estimated, on an average, at from one to one and a half parts in the 1000. In the course of some experiments which I have made from time to time on this subject, I have had an opportunity of verifying the results obtained by Dupasquier; for, at one period, viz., about five or six years ago, the sulphuric acid of commerce was generally highly charged with this impurity; in fact, it often contained as much as ·6 per cent of the metal. At the present time, however, it is rather an unusual occurrence to find even as much as ·2 per cent. of this poison in crude sulphuric acid; and this circumstance arises from the fact, that manufacturers are more careful in the choice of their pyrites. It is hoped, too, that they will, ere long, again resort to the practice of making the acid solely from Sicilian sulphur.

In directing your attention to the methods which must be employed for the purpose of recognising this very formidable impurity, I ought to mention, on the authority of Dupasquier, that the poison always exists in oil of vitriol in the state of arsenic acid. You may, therefore, proceed to recognise it in one of two ways.

1st. Neutralise the sulphuric acid with a solution of carbonate of potash, then slightly acidulate the liquor with a small portion of muriatic acid; filter it and submit it to the action of sulphuretted hydrogen gas. If arsenic be present, it will manifest itself in the form of a golden yellow precipitate, which is soluble in liquor ammoniæ.

2ndly. You may determine the presence of this impurity in another, and as I think, more conclusive manner. Take about three or four drachms of the crude acid; heat it with a couple of drops of concentrated nitric acid, and mix it with about ten or twelve parts of water, so that its specific gravity may be reduced to about 1100. Pour this mixture upon a drachm or so of granulated zinc, and transmit the gas thus generated through a solution of nitrate of silver. Should arsenic exist in the acid it will be made evident by the production of a black precipitate in the silver solution. You must not, however, lose sight of the fact, that sulphurous acid will occasion a similar looking precipitate. In order, therefore, to determine whether the re-action has been occasioned by arseniuretted or by sulphuretted hydrogen, it is necessary to transmit the gas through a red-hot tube of Berlin glass, and to notice the character of the sublimate; for, as I have already shown you, arseniuretted hydrogen produces bright steel-looking ring, while sulphuretted hydrogen thus treated occasions a deposit of yellowish white sulphur.

ARRANGEMENT OF THE APPARATUS FOR DETERMINING THE PRESENCE OF SULPHUROUS ACID AND ARSENIC IN OIL OF VITRIOL.



(a) A flask in which the zinc and acid are placed, for the generation of hydrogen. (b) A small bulb for retaining any of the acid liquor which may be carried over by the hydrogen. (c) A tube of Berlin glass, which conveys the hydrogen and its impurities into a solution of nitrate of silver (d). By means of the spirit lamp (f), the tube is made red-hot, and a sublimate is produced at the point (c).

(d) *Sulphate of Lead* is another very common impurity in oil of vitriol. It is also, like the preceding, a very momentous one; for, as we are accustomed to use large quantities of sulphuric acid in carbonising the tissues for the discovery of lead, it is of the greatest importance that the acid employed should be perfectly free from this poison. The impurity in question is derived from the lead chambers in which the acid is manufactured, and it is produced by the joint action of nitric and sulphuric acids upon the metallic walls of the principal condenser. Dr. Ure says, that commercial sulphuric acid often contains from 0·1 to 0·15 per cent. of sulphate of lead; he states, however, that the amount of the salt which oil of vitriol is capable of taking up is much more limited than is generally supposed; for, after adding a large portion of carbonate of lead to concentrated sulphuric acid, and allowing the mixture to stand in a warm place for twenty-four hours, he found that it contained only 0·5 per cent. of sulphate of lead. In the course of my own experiments I have submitted six samples of oil of vitriol to analysis, and I have discovered that they may contain from 0·032 to ·08 per cent. of this salt, a quantity which is considerably below the amount mentioned by Dr. Ure, and I apprehend, therefore, that greater precautions are now used in the manufacture of sulphuric acid.

In order to recognise the presence of this impurity, you have but to dilute the acid with ten or twelve parts of water, and notice whether the liquid acquires a milky appearance, for this happens when salt of lead is present, and, on allowing the mixture to stand, it deposits a white precipitate of the insoluble sulphate. To prove, however, that this precipitate is a lead salt, you are to collect it on a filter, and then, while it is still moist, diffuse it through a solution of hydrosulphuret of ammonia, by which means the white salt, if it contain lead, will be instantly converted into a black one; or you may demonstrate the presence of lead in the precipitate in another way:—Take it from the filter, mix with about twice its bulk of carbonate of soda, and heat it upon a piece of charcoal before the blow-pipe. In this way the lead will be reduced, and will appear as minute globules upon the surface of the charcoal. Lastly, there is a third method, by which lead may be recognised in this precipitate:—Remove it from the filter and boil it for an hour or so with a solution of carbonate of soda; let the liquor stand for a few minutes, and then pour off the supernatant fluid, add a little acetic acid to the undissolved residue, and test it for lead with iodide of potassium and sulphuretted hydrogen; the former of these re-agents should give a yellow precipitate, and the latter a black one.

(e). *Other saline impurities* of less importance than the preceding are frequently contained in crude sulphuric acid; for example, according to Dr. Ure, this acid often contains from 0·4 to 0·6 per cent. of alkaline sulphates—salts which are in many cases derived from the nitre, &c., employed in the manufacture of the acid. Occasionally, however, saline matters are introduced into weak oil of vitriol for the purpose of increasing its specific gravity, and so making it appear to be a more concentrated liquid than it really is. Judging from the experiments which were made some time since by Dr. Ure, it appears that every one part of sulphate of potash added to 100 of oil of vitriol, increases its density by about 6 parts in the 1000; so that a crude acid, which contains only about 74·5 per cent. of real acid, will have its specific gravity raised from about 1820 to 1853 by the addition of 3·3 per cent. of sulphate of potash. It is evident, therefore, that the addition of a few grains of sulphate of potash to a very weak oil of vitriol is sufficient, were we to depend on its density alone, to make it appear as an acid of most enormous strength. Fortunately, however, for the consumers of such acids, the sophistication is easily recognized, for they have but to evaporate a given portion of the liquid to dryness, and weigh the saline residue.

(f). *Carbonaceous matter in oil of vitriol* is known by its communicating a dark colour to the acid; and although this impurity is not of much moment on its own account, yet it merits attention by reason of the fact that it always indicates the presence of sulphurous acid, a compound which is very perplexing to the medical jurist.

(g). Lastly, some chemists have spoken of the existence of *selenious acid* in oil of vitriol; and notwithstanding that I cannot show you a specimen of sulphuric acid so contaminated, yet I am inclined to think that the impurity is not a very uncommon one, for I have frequently noticed in the zinc cells of my galvanic batteries, a red deposit which I cannot satisfactorily account for; and I regret that I have not made a careful inquiry into the nature of his deposit. It might have been selenium reduced by the nascent hydrogen in the cell; and, if so, the presence of such a substance in any liquid used in Marsh's apparatus would be very likely to lead to embarrassment and difficulty; for the characters manifested by seleniuretted hydrogen are very analogous to those produced by its compeer, arseniuretted hydrogen. In fact, they both burn with a whitish opaque flame, and deposit similar-looking sublimates when the combustion is effected in a glass tube. They both blacken a solution of nitrate of silver, and are decomposed, giving rise to a metallic ring when they are passed through a red hot glass tube. There are, however, two characters by which seleniuretted hydrogen may be instantly recognised. First, the gas itself has a most intolerable odour, and it produces great irritation of the eyes, nose, and air passages. Berzelius states, that in the first experiments which he made upon this gas, he let up into his nostrils a bubble about the size of a pea. "It deprived me," said that chemist, "so completely of the sense of smell, that I could apply a bottle of concentrated ammonia to my nose without perceiving any odour. After five or six hours I began to recover the sense of smell, but a severe catarrh remained for about fifteen days." On another occasion, a little of the gas accidentally escaped; it produced a sharp sensation in the nose, red eyes, and a dry and painful cough, at length succeeded by expectoration, tasting like the vapour from a boiling solution of corrosive

sublimate. "These symptoms were removed by a blister to my chest. The quantity of seleniuretted hydrogen gas which, on each of those occasions, entered into my organs of respiration, was much smaller than would have been required of any other inorganic substance whatever to produce similar effects."—(Brande.) This character, therefore, is quite sufficient of itself to discover the presence of selenium. But seleniuretted hydrogen manifests another property which is even more marked than the preceding; for, when the gas is burnt in a glass tube, after the manner frequently recommended for the combustion of arseniuretted hydrogen, it produces a powerful and highly offensive odour, which has been compared to putrid horse-radish.

As to the source of this impurity, selenium is not by any means an uncommon constituent of iron pyrites, the mineral so often employed in the manufacture of oil of vitriol. Berzelius discovered it in great quantity in the mundic of Fahlun. It is also a constituent of the pyrites found in the Isle of Anglesey; and I doubt not that it may be a component of the sulphurets obtained from Ireland, Cornwall, and other places.

With this I conclude my remarks on the impurities of oil of vitriol; and in my next lecture I shall pass on to consider the modes in which sulphuric acid is to be deprived of these contaminating agents.

THE LUMLEIAN LECTURES,

DELIVERED AT THE ROYAL COLLEGE OF PHYSICIANS.

By R. B. TODD, M.D.,
Fellow and Censor of the Royal College of Physicians.

Reported expressly for this Journal.

LECTURE I.

ON CONVULSIVE AFFECTIONS—CHOREA—TETANUS—EPILEPSY.

Mr. President,—In every branch of science which depends on the observations of years and of ages, it is of importance that its cultivators should review the state of knowledge, and inquire whether the foundation be secure, or whether any change ought to be made in the superstructure, to supply the defects which previous ages have left. With this view, I have chosen for the subject of these lectures, the pathology of those diseases of muscular action of which convulsions is a prominent symptom. Under the general term convulsions, I include all those irregular motions, or sets of motions, which are not under the control of the will, and which are for the most part kept up by physical or mental excitement; if the flexors of a limb are thrown into an action of this sort, I should say they are convulsed. There are three kinds of convulsions:—

1. Jactating, or choreic.
2. Tonic, or tetanic.
3. Chronic, or epileptic.

1. This class is peculiar from the jerking motions it gives rise to,—irregular, uncontrollable by the will. Here, there is no augmentation of power, but great debility, sometimes preceded by a paralytic state. A very remarkable feature in this class is, that it is influenced by that state of the nervous system which produces sleep; choreic convulsions cease immediately under the influence of sleep, and re-appear on waking.

2. The tonic is a state of greatly increased muscular tension; a muscle thus convulsed may be compared to the string of a violoncello, screwed up to its highest pitch; there is here a great increase of muscular force, so that sometimes the fibres become ruptured. Cases of this kind may be exactly imitated by passing the galvanic current through the spinal cord.

3. The chronic class consists of powerful contractions of sets of muscles, each act of contraction being rapidly succeeded by one of extension, and so on, till the force is worn out. The powers of their contraction is very great, and though this is not favourable to the rupture of the fibres, yet bones are often broken in such paroxysms. I shall now enumerate various forms of the disease accompanied by these manifestations.

In the first class, the typical malady is chorea; in the second, the type is tetanus, the clinical history of which is well known; and along with this may be classed those diseases peculiar to children—croup and laryngismus; I place epilepsy as the type of the third, and, along with it, convulsive fits of chorea.

1. Chorea. This disease is one peculiar to early life; it very rarely occurs after the age of puberty, or, if it does, it is where the signs of that state are not well developed. The period of life in which chorea generally takes place is that between 6 and 15. Of the 189 cases observed in the Childrens' Hospital of Paris, 10 only occurred before 6 years of age; 179 between 6 and 15; and, of the latter, 118 between 10 and 15. It affects girls in a much greater proportion than boys. The examination of its phenomena shows two varieties.

1. General, which may be either acute or chronic.
2. Partial.

1. In this, the patient is unable to walk, and the speech becomes affected; no voluntary action can be performed; there is protrusion of the tongue, and one wonders how it escapes being injured by the teeth. The patient is obliged to remain in bed, rolling incessantly, so that the friction causes troublesome sores; and sometimes they literally shake themselves to death. When such is the case, it is of the acute form; but happily this is rare, and general chorea occurs more frequently in a chronic form, with longer intervals of sleep.

2. But the most common form is that where it is only partial; and I will just point you to the phenomena of these cases.

(1.) The affection is not symmetrical. One side is more affected than the other. In general, this difference remains with that side, but, in rare instances, there is a disposition to shift—a tendency which is a common feature of gout. The affection of the tongue is also most characteristic and peculiar; the patient protrudes the tongue with remarkable force, and its subsequent retraction is as peculiar,—it is drawn back very slowly and with great caution. Sometimes this is the precursor of other choreic symptoms, and I have, from this feature, often been able to predict them. When choreic convulsion has affected one side, paralysis often affects the same side. In a few, paralysis precedes choreic convulsions, and is distinguishable by the sign of the tongue. The heart is very frequently affected in morbid chorea, and this is evidenced by its sound; a bellows-sound is often present. What, then, is the cause of this, is it occasioned by morbid deposits on the mitral valves? or does it depend on the anæmic state of the patient? The closure of the mitral valves is an effect of the accumulation of fluids in the ventricles, and this will be produced, no matter what the nature of the fluids may be. A watery state of the blood, of itself, cannot produce this sound; it is plain, then, that it must be caused by a disturbance in the action of the mitral valves. What, then, produces this disturbance? Is it owing to the muscular action of the heart? I apprehend not; and it appears to me that this sound is due to organic lesion, which prevents the closure of the mitral valves. Then, what creates this state of those valves? The answer to this inquiry is, that many of the patients are rheumatic; some experience endocarditis, which affects the mitral valves; many, also, are found to have articular pains and to experience deranged secretions. I have known many children in this state pass urine of a very high specific gravity. Choreic patients, also, often suffer from rheumatic fever. To give an instance of the connexion between chorea and rheumatic fever: One patient had good health till his eighth year; he then had an attack of rheumatism; in four months this was followed by chorea, of which he was cured, but had a second attack the year after; from this he recovered and remained well four years, then had another attack of rheumatism, and, in six weeks, a third attack of chorea. Chorea does not occur in the healthy, but among those, generally, whose digestive powers are feeble, and especially among the children of the poorer classes. Its tendency is to recovery. Of the 14,725 deaths registered in the quarter ending Christmas, 1848, only one is attributed to chorea, and this is the average of the same period for six years, with one curious exception, when six deaths were ascribed to it; and when we reflect upon the number of these cases that are neglected, we say, the natural tendency of the disease is to recovery; at any rate, it is not such a complaint as does not admit of cure. Of the few *post mortem* examinations that have been made, they show that chorea leaves behind it no traces of any lesion in any part of the body which was likely to produce it; and neither can it be supposed that opacity in the arachnoid or irritated ovaries should have any relation to it. The peculiar movements of chorea may occur in the rheumatic or gouty states. Sometimes the patient finds it impossible to accomplish certain actions. There is one curious affection which I should notice, the prominent feature of which is the inability to hold a pen, and to write for any length of time; after a person has written a certain number of words, the hand becomes spasmodically extended, and the pen drops; and yet all other actions can be well performed. No doubt the impairment of speech is of this character. Allied to this, also, are the fidgets of children; the child becomes miserable, and a misery to those about it; incessantly making grimaces, handling or touching everything with which it comes in contact. Children thus affected may be easily thrown into convulsions.

The second class is typified by tetanus. The points marked here are:—

1. Little variation of the symptoms in different cases; the varieties being only as to degree; in all there are rigid limbs and locked-jaw.

2. They occur without any observable lesion; and, what is more remarkable, artificial tetanus occurs without any lesion of the cerebral cord; there is no indication of a deranged structure.

3. It often appears endemically. It takes place in some localities more than in others; and is more common in the West Indies than in more moderate climates. In this country several cases are known to have occurred in some particular locality.

The tendency in tetanus is—death by exhaustion; in consequence of the violent paroxysms the respiratory functions become seriously impeded. The most auspicious sign is the prolongation of the intervals between paroxysms. The disease, called trismus nascentium, is due to a state of the system developed under deleterious local influences. Dr. Clarke, of Dublin, by means of improved ventilation, reduced it from 17 to 5 or 6 per cent. I have classed with these, that disease of infants known as laryngismus, because there are in it many points of resemblance to tetanus. These features are:—

1. Laryngeal spasms are truly tetanic, occurring in paroxysms, and lasting for a considerable period.

2. As in tetanus, it is brought on by sudden stimuli.

3. Tetanus sometimes does not extend beyond the muscles of the jaw and throat; but in laryngismus it extends to other parts, producing a similar condition of the head and feet. With these symptoms, there is often conjoined opisthotonos; during the paroxysm the child's consciousness is unaffected.

4. Laryngismus does not manifest itself in the robust, but in those of a weakly constitution and depraved nutrition. A strong, healthy, well-fed child never shows it.

5. Under the continued operation of the exciting cause of the disease, laryngismus exhibits a fatal result, and death takes place from rapid asphyxia; in such cases, the mode of death is exactly as in tetanus.

But in the third class of cases, the epileptiform convulsions are superadded to the tetanic.

The clinical history of some more formidable varieties may here be noticed; as, for instance, where the type of the malady is epilepsy. This is characterised by attacks of loss of consciousness, and last for a longer or a shorter interval. These cases are often accompanied by a loss of volition and

of locomotive power, which continues for some time, with a state of insensibility; and the patient remains in a profound sleep after the affection has left him; sometimes, indeed, it is so profound, that he is unconscious of having had a fit. The phenomena preceding the attack differs infinitely; some times there is a disturbed state of the intellect headache, or giddiness; sometimes the hearing is affected, or tingling in the ear, or the sense of smell is disturbed. One patient of my own had warning five minutes before, by being seized with violent tremor; and Dr. Gregory had a case in which the warning given was the phantom of a little old woman in a red cloak, striking him on the head. Sometimes delirium is the preceding symptom; he the patients become raving mad; and the knowledge of this fact once saved me from what otherwise might have been of extreme inconvenience. In most cases all the voluntary muscles are engaged while in some this affection is altogether limited to one side. The action of the heart is very much accelerated, and continues so for a long period. A dilated condition of the pupil is also observable. Epilepsy is a disease common to all periods of life; it may even occur *in utero*. There is an acute form as well as a chronic. In the chronic form, we remark that curious kind of periodicity which regulates it—occurring once in twenty-four or forty eight hours, or once a week; and although in this it exhibits some analogy to ague, yet it wants its precision. Of the hereditary character of the malady there can be no doubt. Epilepsy seldom kills; the patients die nominally of other diseases; diarrhœa disposes of vast numbers, while others pass into a state of dementia, and become insane. The earliest destructive indication is in the weakening of the perceptive powers; in this way only can we explain the fact, that the power of the memory in respect to recent occurrences suffers first. This failure takes place more rapidly as the paroxysms occur seldom or frequently. A very remarkable feature of this disease is, that sometimes the tendency to epilepsy ceases apparently of its own accord, without the possibility of assigning any reason for it. Epilepsy and insanity frequently go together; in other cases insanity precedes it; and in a third class the patients are insane only for a short time before or after the epileptic attack. Another most interesting point is, that his disease may go on for a considerable time without any apparent change in the condition of the brain. The congestion in the brain of the epileptic, and which is but seldom present, is attributable entirely to impeded respiration; and the bloody points found in the veins on dividing the hemispheres, the opaque arachnoids, and the adherent dura mater, are often found where there has been no epilepsy. These morbid appearances are constant, but the paroxysms are temporary; and, therefore, I think it impossible to attribute those appearances to that particular affection. As to whether hypertrophy of the brain may cause epilepsy, I must refer you to my next lecture.

ORIGINAL CONTRIBUTIONS.

MEDICAL SCHOOLS AND UNIVERSITY TOWNS OF GERMANY.

By DR. BUSHNAN.

(Continued from page 177.)

ERLANGEN.

Before continuing my account of the Medical Schools and University Towns of Germany, let me acknowledge the great assistance I have received in their compilation from my friend, Mr. Whitling, of Nuremberg. Without the aid of that gentleman, I could scarcely have obtained the great mass of information, upon the subject which I have laid, and have still to lay, before the Profession. I may further state, I am informed, that so much interest has been excited, even in Germany, by this series of Papers, that an edition in the German language is in the course of preparation.

About ten miles from Nuremberg, on the line of railroad between that city and Bamberg, lies the neat little town of Erlangen, containing the chief Protestant School of Bavaria, and its smallest University. It was founded by Frederick, Margrave of Bayreuth, in 1743, but subsequently underwent many changes, both in its direction and government. After the death of the last Margrave, in 1791 it fell to the lot of Prussia; in 1806, it was occupied by the French; and in 1810, the principality of Bayreuth, with the University of Erlangen, was finally conferred by Napoleon on the late Maximilian Joseph the First, under whose heirs it has remained. How long it may remain so is, however, uncertain, since, amidst other and manifold changes now in progress in Germany, a large portion of the kingdom of Bavaria, viz., Franconia in which this University is situated, is threatening a separation from the House of Wittelsbach in the event of its present representative rejecting the proposal for German unity under the King of Prussia. *Quem Deus vult perdere prius dementat*—and the princes of this country, in opposing the wishes of their people, are madly rushing on inevitable destruction. The reign of Absolutism is at an end and all the gods of Germany can re-establish it no more.

Erlangen, although the least of the Bavarian Universities is not destitute of Medical renown and the names of Schreger, Schelling, Karless Schubert, Rudolph, Wagner, Heyfelder, &c., are sufficient to enable it to maintain a respectable position, whether present or retrospective.

The number of students is somewhat under 400 of whom about 45 are destined for the Medical Profession. But the Medical Institutions here although sufficient for their objects, and, indeed fully equal to any demand that can be made upon them, are, nevertheless, not large; and, therefore do not afford that scope for study and improvement so amply found in the larger Universities. The number of Professors in the Medical Faculty is only eight. The Hospital, where are read the Medical and Surgical Clinics, contains about twenty rooms, of which two are appropriated to ophthalmic patients. The Medical Clinic is held from 10 till 11 o'clock every morning, by Professor Canstatt, a skilful man and good lecturer, and the average annual number of patients is about 2,200.

Connected with the General Clinic is the Polyclinic, in which the patients, though expected to present themselves at the lectures, are, nevertheless, partly visited at their own abodes. This seems occasionally to offer good opportunities to the young student for the study of many interesting cases, inasmuch as by the printed report now before us, it appears that the number of patients in the twelve months ending October, 1847, amounted to no less than 1,700,—very considerable for this little town, and the natural result of the great extent of poverty in and about Erlangen. Dr. Canstatt is the Professor of Medicine, and his assistant-physician, Dr. Winterich.

The Surgical Clinic, under the direction of Professor Heyfelder, is excellently arranged; it offers about 900 cases yearly, and from 80 to 100 serious operations. The Professor allows certain of the minor operations to be performed by the younger students under his immediate direction. The Lecture or Clinic is delivered at eleven in the morning, and lasts an hour. The cost of each of the above is 12 florins (1*l.* sterling) per semester.

The School of Anatomy, formerly an Orangery of the ancient Margrave's, is a spacious amphitheatrical building, well lighted, and containing various good-sized rooms, in one of which is the collection of anatomical preparations. During the winter semester, lectures are delivered here by Dr. Fleischmann and Dr. Herz, who give practical instruction, demonstrations, &c., during the summer, at a cost of twenty-two florins. The surgical operations upon the bodies are, however, directed by Professor Heyfelder, the terms for which, per semester, inclusive of subjects which are supplied from the Hospital and poor-houses, are twenty-eight florins. Lectures on Anatomy, Physiology, and Comparative Anatomy, are also given here, at a trifling charge, by Professor Will.

The Lying-in-Hospital is situated a little distance from the town on the Nuremberg-road. This Institution was formerly connected with the Surgical Clinic; but about twenty years ago the present building was thus appropriated, and it is under the able management of Dr. Rosshirt. The number of patients yearly admitted is about 250, and the entire arrangement is as good as circumstances admit.

Near the School of Anatomy is the botanical garden. It comprises a large and very valuable collection of plants, shrubs, and trees, both native and foreign. Well arranged and neatly kept, it reflects much credit on Professor Koch, to whose charge it is confided. In some rooms of the old palace there is a good museum of zoology and mineralogy, wherein are found numerous and well preserved specimens of the animal and mineral kingdom. These departments are under the care of Professors Will and Raumer. The collections are open to the public on Wednesdays and Saturdays, from one to three o'clock, p.m.

The curators deliver lectures, both in the Museum and at their own houses, at twelve florins per course.

In Chemistry, Professor Kassner is the teacher, and has the direction of the chemical laboratory, as well as of the physical institute. He does not, however, seem to be much in repute, as his style is said not to be clear, and his system imperfect. The students' complaint of him, translated into English, stands thus—" He is too clever to be understood; very ingenious, but not intelligible."

The University Library, like the Cabinet of Natural History, stands in part of the ancient palace. It is very extensive, and was greatly augmented in 1809, when the Altdorf University was suppressed, and its contents transported hither. These, amongst other valuable works, comprised a large Medical library, (Altdorf having also had its medical school), and an immense collection of original letters and MSS. of the most renowned physicians of the sixteenth and seventeeth centuries.

Connected with the Library is a Reading-room, where newspapers, periodicals, and the most interesting medical *brochures* are to be met with. This and the Library are opened every day, except Saturday, from one to two o'clock, and access, under certain regulations, can also be readily obtained at other times.

Professor Martius has an extensive and very interesting private collection of pharmaceutical preparations, containing between 2,000 and 3,000 specimens, of which the students have the use when attending his most instructive lectures.

Native students, who offer themselves for the doctor's degree, must undergo a severe examination on the following subjects:—

Surgery and Surgical Operations; Anatomy, simple and comparative; General Physiology; Special Pathology; Natural Philosophy; Pharmacology, &c., &c.

This done, they must propose a thesis and defend it publicly—oftentimes in Latin. If satisfactory, the diploma is granted. The amount of the various fees is 250 florins, (20*l.* 16s. 8d.) There are especial regulations for foreigners wishing to obtain the degree of Doctor of Medicine at this University. Those affecting English practitioners are as follows:—

Medical gentlemen having finished their studies, *but not yet authorised to practise* through the necessary examinations of their own country, are required to appear personally, for the purpose of undergoing an examination. Testimonials of their studies and moral qualifications are to be produced at the same time.

Gentlemen *already licensed to practise* are not exempted from personal attendance, *unless they have been already ten years in practice*, or are distinguished as medical writers, or otherwise by their reputation, public recognition, &c. With the exception of such cases, personal attendance is only dispensed with, when the applicant can prove by testimonials, that he has been ten years in practice, after having been legally authorized; that he is

of general and medical respectability; that he is prevented from appearing personally by private practice, public duties. &c. &c.

The Medical Faculty of Erlangen considers as legally authorised to practice :—

1. The Members of the Royal College of Surgeons in London, Edinburgh, and Dublin; or Members and Licentiates of any other Medical Board, entitled to grant licenses.

2. Medical gentlemen attached to public Institutions, as lecturers, physicians, or surgeons.

3. Medical gentlemen having appointments in the army or navy.

4. Medical gentlemen having been licensed to General Practice before the year 1815; that is, before the Act of Parliament conferring the Rights and Charter of the Apothecaries' Company.

5. Licentiates of the Apothecaries' Company are to be admitted only in case of their being able to prove, by testimonials, that they have been in extensive practice during a period of time that may be deemed satisfactory, or that they are attached to public Institutions.

A candidate for the Medical Degree is, moreover, required, to present a copy of one or more of his publications, should he be an Author. If this be not the case, he must submit a medical treatise in manuscript; this should be in Latin. Further, he is required to answer those written questions which the faculty think proper to propound in cases of absence; and to certify and solemnly affirm, at the end of the medical treatise and replies, *that he, and he alone, is the Author of them.*

Upon the satisfactory fulfilment of the foregoing regulations and payment of the fees, amounting in this case to about 300fl. or 25*l.* sterling, the diploma is granted.

Of German diplomas generally, thus much may be asserted; that they are, *for the most part*, easily obtained by foreigners—payment of the fees being too often regarded as the main proofs of qualification. The various examinations which the German student has to sustain, though far less *practical* than with ourselves, are, nevertheless, very severe; and, at the *Staat's Examen*, many and many a man who has passed the others in a creditable style, and thought himself secure is rejected, and at a comparatively late period of life, finds himself compelled to resign his hopes, and seek another occupation. The regulations ostensibly imposed upon the foreigner are, however, by no means insurmountable; indeed, we possess evidence enough to show that they are being every day evaded. (a)

A student at Erlangen—if of moderate habits—may live very inexpensively. He may obtain a good lodging for thirty florins per semester, or about 6*l.* per annum; and he may subscribe for his dinner at about sixpence per diem. There is not much society in the town, but the surrounding country (b) is attractive; the public gardens (particularly the Welt Garden) pleasant, and the general life agreeable enough.

As in most German towns, so at Erlangen, there is a good "Harmonie," in which many concerts and balls are given during the winter season; and the facility with which the student, by means of the railroad, can visit Nuremberg, Bamberg, and other interesting places, contributes greatly to his recreation and enjoyment.

The town, altogether, may be said to be distinguished for many things that render it an agreeable place of abode; for its learning also and education; for its various Institutions and liberal University. But, alas! how slow and unwilling some appear to listen to the voice of justice and even humanity, to say nothing of the higher claims of religious obligation! Thus, up to within the last few months, no Jew has been allowed to reside, *or even to sleep*, in the Protestant university town of Erlangen; and, although with a niggardly caution, which shows how hardly ancient prejudices are overcome, permission has been granted for Jews to live there, the advantage of dwelling within its limits seems to have been considered almost too great for the sons of Abraham, according to the flesh, to aspire to; therefore, ere the privilege can be obtained, the proposed inhabitant must *give proof of possessing property to the amount of* 20,000 *florins, and purchase a house in which to dwell.* And this is the equality of German Liberals in 1849! this the even-handed justice of German Protestant Christians in an university town!! Alas, for the poor Jewish people! Except, perhaps, the flying-fish, no race existing on the earth, in the earth, neither in the waters, have been the objects of so much unremitting, general, and relentless persecution as they.

With respect to student life generally, materials would have been afforded for a highly interesting volume, had each separate section of it kept a credible notary, who, in an entertaining manner, though, at the same time, adhering strictly to truth, had written down its respective history for the information and amusement of future generations. Erlangen would have deserved such a chronicler; for, though founded at a comparatively late period, and thus presenting none of those more striking peculiarities observable in other Universities, yet student life, with all its oddities and attributes, was there quickly installed, and among these sons of the muses found fitting representatives. A short notice of some of their doings, as gathered from certain old books and MSS., in the library referred to in this article, may not, perhaps, be uninteresting to a portion of our readers.

It is certain the particular element which exhibited itself so remarkably in the German students of the 19th century, and made them differ so pointedly from every other class, lay long hidden under a variety of forms, movements, and ceremonies; many of them of a far deeper and more solemn import than might at first be imagined. The Erlangen student, breaking through the custom of pigtails, bagwigs, and courtly dresses, sallied forth in stiff military jackboots, doeskin trowsers, heavy uniform coat, his hands gloved, and the thick tilting gauntlet thrust into the iron-basket hilt of the victorious *schlaeger*, which hung at his side, as well pleased with himself as any hero of the olden time. In these days, learning was principally laid on the shelves of the Professors, and few besides those who were really obliged to do so, troubled themselves to bring it down. All who did, were termed "bread hunters," meaning such as studied for bread. These, however, seem to have taken it pretty coolly, for the examinations were not nearly so severe as at present, and *to have been a student*, and *to have studied*, appear, at that time, to have been looked upon, by most people, as one and the same thing. The Professor talked till he was hoarse amidst clouds of tobacco smoke, which, like heathenish incense, sent up its fuming wreaths to the already blackened ceiling of the Auditorium, while his disciples, instead of listening to him, were busy in arranging a sledging party, a duel, a "commerce," or some other matter of equal interest and importance. If the neglected Professor ventured to complain, or, as they term it, "shrug his shoulders," at their want of attention, his windows were broken the same evening. Formerly, if two of the students quarrelled, a circle was instantly formed in the market square, the military, citizens, peasants, and policemen assembling at pleasure to see the fun. The combatants stepped into the circle, and the blades were crossed. Such encounters were, however, at no time dangerous; and the pro-rector himself was often seen with his long pipe looking quietly out of window at what was going on. It was reserved for more modern duellists to fight with pistol and *stoss-rapier* (small sword), about which so many complaints are now-a-days made. The students agreed very well with the citizens, soldiers, and policemen, as long as the latter did nothing against what they termed Academic-Freedom. But as this peculiar branch of the family was found to be a lady of no ordinary and troublesome pretensions, the attachment of the students towards her did not always prove sufficient to keep off the unhallowed attempts of the other parties to bring her down a little; and the consequences were, sometimes, not only broken heads, but wounds of a more serious character, and, indeed, loss of life has now and then been known to occur. The citizens seem formerly to have had a great fondness for this kind of pastime, and, upon the slightest provocation, would turn out in battle array against the academicians, each party being armed with thick heavy sticks. The *fracas* would last for hours, till at length, losing all patience, the burgomaster would call out a troop of cavalry, which, dashing in amongst the belligerent parties, quickly dispersed them. On one of these occasions, some of the Erlangen Professors lent their aid and authority in quelling a riot in which the students were manifestly to blame. They were instantly marked men. Their lectures were abandoned. The students withdrew to Bayersdorf and the neighbouring villages, and sent word to those Professors, that "if they thought it necessary to continue to read lectures for their own amusement, it was all well and good, but if necessary for the edification of the students, they must come out to Bayersdorf, where they would be found assembled in the woods!" The pocket is always a dangerous casuist, and that of the Professors being as empty as their *auditorium*, they were obliged to give way, and publish a general amnesty ere their disciples would return.

The altercations of the Erlangeners with the Polizes Diener Police, were the most amusing. The latter had a mortal aversion to the term, "Schnurren," (Catchpole,) which the students applied to them pretty freely, running past the watchhouse, and crying, "Schnurren 'raus," (catchpoles come out.) The police soon made their appearance, and pursued the fugitives, who drew them by degrees into the dark, narrow streets, where thick ropes, that had been previously drawn across, caused many a scarlet feathered cap to roll in the dust, and its owner into the kennel.

These, and such like tricks, together with lamp breaking, changing the various tradespeoples' signs, and occasional processions, of a character either serious or grotesque, made up the sum total of their pastimes. Times, however, have now changed, and the different features of student life, as well as their pursuits and pleasures, are changing too; nor is it improbable, that, in a very few years, all the present distinctive characteristics of that class, both in dress and deportment, will have passed away, and become, what some of them already are, matters of entertaining history.

(a) Perhaps some idea of the real value attached to such diplomas, *generally*, by those German Universities which grant them, may be gathered from the significant fact, that in no case have we been able to get at the names of those Englishmen who have obtained them. All applications, whether *direct*, or made through some of the resident Professors with whom we are acquainted at several of the principal Universities, have alike failed—"*It is against their rule to make the names public.*" Had any honour been likely to accrue, either to the buyers or sellers of these dainty devices, there is no doubt that the Faculties from which they emanate would be ready enough to make known the names of the distinguished physicians upon whom they have been conferred.

(b) It is not far from the beautiful Muzzendorf district, and its enchanting valleys. See "Pictures of the Capital and Valleys of Franconia." By H. J. Whitling. Publishing by Bentley.

ON SCARLATINA.

By J. W. TRIPE, M.D., M.R.C.S., and L.A.C., London.

(Concluded from page 197.)

Professor Paget, in his admirable lectures on "Nutrition," &c., delivered at the College of Surgeons, observes, that the precision with which the nutritive processes are performed is so great, that the newly formed blood and tissues take the likeness of the old ones in all their peculiarities. In proof of this he adduces, that not only does the individual retain the form and expression of his features, but he retains even his peculiar temperament; also, that an injury inflicted on a part is perpetuated;

thus, the scar resulting from a wound will, if occurring in a child, grow with the child's growth and be preserved throughout life. There is, however, a tendency in all diseased and altered tissues to revert to their original condition, so that a scar may wear out. Mr. Paget then proceeds to say "What we see in scars or thickenings of parts appears to be only an example of a very large class of cases; for the exactness by which the process of assimilation in a part maintains the change once produced by disease, offers a reasonable explanation of the fact, that certain diseases only occur once in the same body. The poison of small-pox, or of scarlet fever, for example, being once inserted, soon, by its multiplication or otherwise, affects the whole of the blood, alters its former composition; then the disease, in a definite form and order, pursues its course, and finally the blood recovers, to all appearance, its former state. Yet it is not what it was; for now the same material, the same variolous poison, will not produce the same effect upon it and the alteration thus made in the blood or the tissues is made once for all; for, commonly, through all after life, assimilation never deviates from the altered type, but reproduces particles exactly like those altered by the disease; the new ones, therefore, like the old, are incapable of alteration by the same poison, and the individual is safe from the danger of infection."—Lecture III.

Mr. Paget adduces another very strong proof of the exactness of the assimilative process, that I am tempted to quote it, and this not only as a very apt one for my purpose, but because it explains better than any passage of similar length, the mode in which the recollection of events long past are impressed on the brain, and by which the immaterial mind takes cognizance of them. "It is asked, How can you suppose the brain to be the organ of memory, when you suppose its substance to be ever changing? or, how is it that your assumed nutritive change of all the particles of the brain is not as destructive of all memory and knowledge of sensuous things, as the sudden destruction by some great injury is? The answer is, because of the exactness of assimilation; the impression once made upon the brain, whether in perception or intellectual act, is fixed and there retained; because the part, be it what it may, which has been thereby changed, is exactly represented by the part which, in the course of nutrition, succeeds to it. Thus, in the recollection of sensuous things, the mind refers to a brain, in which are retained the effects, or rather the likeness, of changes that past impressions and intellectual acts had made." The law of tendency to revert to the former condition, may obliterate the impressions, when "the mind—itself in its own immortal nature unchanged, and immutable by anything of earth—no longer finds in the brain any traces of the past." These extracts from Mr. Paget's lectures put in a very satisfactory point of view this most important part of the process of assimilation, and satisfactorily show how the change once effected in the blood, remains permanent for the remaining period of our existence.

In a previous part of this memoir, I quoted a paragraph from Dr. Bateman's work on cutaneous diseases, to show that he had frequently observed severe affections of the throat to occur in persons who had previously had scarlet fever. The inflammations of the tonsils, and of the adjacent parts are stated to have attacked the patients only during the prevalence of an epidemic of this disease, and to have pursued in every respect the course of the scarlatinoid cynanche. The description given by Fothergill and Huxham of the malignant sore throat is so characteristic of that produced by the scarlet fever poison, that but little doubt remains concerning the true cause of this disease. I have myself seen several striking instances of this kind during the last epidemic; in three cases of scarlatinoid cynanche the patients had had scarlatina simplex previously, and in two others the same occurred, but as they were attended with other peculiarities, the cases, although previously related, will be again noticed. A son of Mrs. M. was attacked with scarlatina maligna-gravior, and died. Mrs. M., who had scarlatina simplex in early life, was seized four days after the eruption appeared on her child, with a severe form of cynanche, with the peculiar aphthous-like ulceration of the mucous membrane of the fauces so common in scarlet fever. When she was recovering, her two daughters were brought home from boarding-school, and the elder one, who had also had scarlatina sine anginâ at a previous period, contracted a sore throat precisely resembling that of the mother; she recovered. The younger daughter, who had not had scarlet fever, had an attack of the malignant kind and died. The son was attacked on June the 11th and died on the 14th the mother became ill on the 16th, the eldest daughter on the 2nd of July, and the younger daughter on the 11th.

These cases lead to the following conclusions that, the alteration of the blood is not, alone, a sufficient protection against a subsequent attack, but that an affection of all the tissues liable to the disease is also necessary. Lastly, that a person who has once had the disease may propagate it in a subsequent attack, even although he may not, during the second attack, have any disease of the skin.

That the alteration in the blood is not alone a sufficient protection against a second attack, is evidenced by these and similar cases, in which severe scarlatinoid cynanche happened in those who had had scarlatina simplex (sine anginâ) previously.

We can scarcely doubt that, as far as the blood will admit of it, the alterations usually effected by the passage of the virus into the system take place as fully during the progress of scarlatina simplex as of scarlatina gravior or maligna; inasmuch as it is not likely that the poison would stop short of changing all the particles then in the blood, which were capable of undergoing this change, any more than a ferment introduced into a saccharine solution would—other circumstances being favourable—cease converting the sugar into simpler compounds.

The opinion of all those who have sufficiently considered this matter is favourable to the supposition that the whole mass of the blood is changed by one attack. Mr. Paget states, "So it must be, I think, with all the diseases which, as a rule, attack the body only once. The most remarkable instance, perhaps, is that of the vaccine virus. Inserted *once*, in almost infinitely small quantity; yet, by multiplying itself, or otherwise affecting *all* the blood, it may alter it once for all."*—Lecture III. We may, then, consider that the blood is, as far as it will at that time admit of it, altered entirely by the attack, and that all the material capable of taking on the fermentation, or other process, when the virus of scarlatina is absorbed into the system, is changed in the first attack, whether that be one of scarlatina simplex, mitior, or gravior. But although we admit that this alteration in the blood is full effected, yet we must not overlook the tendency existing in the blood, as well as in all other living parts, to revert, when altered by disease, to their normal state; and that, therefore, in a few instances the blood may be capable a second time of allowing this process to take place.

Admitting, then, that the blood is fully altered by one attack, how is it that a person may have a second attack? It must either be in consequence of the blood having returned to its original condition, or by so large an amount of the poison having been absorbed as to attack a tissue that had formerly been spared. It may be asked, what proof is there of this? I answer, the experience of all physicians, that scarlatinoid cynanche is most prevalent when scarlatina rages in an epidemic form; the fact that a person having the scarlatinoid cynanche may transmit either the same form of the disease, or the scarlet fever itself, to another. This latter is fully shown in the cases of Mrs. M. and her eldest daughter. We here had an instance of the mother, after exposure to the infection of scarlet fever, contracting the cynanche, and infecting a daughter with the same, who in her turn infected a sister with scarlet fever of a fatal type. The dates of the death of the child, and of the attacks of the mother and of her daughters, forbid any other interpretation being put on the facts.

Although I am willing to admit the priority of the changes in the blood, yet I think it impossible, if poisonous materials which have been introduced into the circulation have certain "seats of election," and a greater affinity for one or more organs than for others; that the organs or tissues with which the poison combines, or through which it is cast out of the system, can escape being more or less altered. For instance, it does not seem probable that the poison of scarlet fever can be thrown out of the body by the skin, or by the mucous membranes of the alimentary canal or of the kidneys, or by all, without effecting some change in the tissues. If, then, we allow that this change takes place, is it not in accordance with the ordinary phenomena of the assimilative process, that this alteration would be perpetuated? Under these circumstances, if the poison was again introduced into the blood, would it not be more likely to attack a tissue for which it has an affinity, and which had not been thus altered, rather than one which had been? I think it is; and, therefore, consider, that an affection of all the membranes susceptible of the action of the scarlatina virus, is necessary for the perfect protection of the individual against a second attack. As some further proof of this position may be mentioned the fact so well known, that persons affected with the disease invariable become worse after the parts adjacent to the throat have become affected. What says Dr. Watson on this subject? "It is the condition of the throat that gives rise, in these cases, to the most formidable symptoms. The system is re-inoculated from that source."—Vol. II., p. 758. I am of the same opinion, and think that the action between the poison in the blood and the membrane diseased, gives rise to the formation of an increased quantity of the virus; and that an increase of the poison might thus occur, totally independent of any augmentation in the blood. If this be the fact, we can readily account for a person propagating the disease during a second attack, even although the blood may be incapable of allowing of any multiplication of the poison, or the skin may escape being in any way affected.

There is one point of the disease that has been incidentally mentioned, that requires a little fuller consideration. I allude to the greater affection of the throat in one person, and of the skin in another. This peculiarity has been well known for many years. Dr. Heberden (Comment. P. 28) states, "Even in the same family, when a number of children have been ill either together or immediately after one another, some have had the distinguishing symptoms of scarlet fever, and others of the malignant sore throat." Dr. Blackburne (on Scarlet Fever, pp. 48-49) observes, "It most frequently happens, that the guttural is the primary affection, and the efflorescence a symptom which appears after the constitution is universally impregnated, only in certain skins disposed to receive it."

How can we explain this? This may readily be done by variations in the "power of election" possessed by the tissues for substances circulating in the blood. Thus, in one individual the tissue of his skin may have a greater affinity for the virus of scarlatina, than those of the throat or kidneys, and *vice versa*. Under these circumstances, if the material in the blood by means of which the poison is enabled to multiply, should exist but in a small quantity, the amount of poison so formed would be would be proportionably small, and the disease would appear in that structure for which the poison had the greatest affinity to the complete or partial exclusion of the other parts.

We have an instance of the same material attacking different parts of the same tissue at different times, in what have been termed by Dr. Budd and Mr. Paget symmetrical diseases. The morbid material here seizes upon corresponding parts of the two extremities or sides of the body, in preference to any other parts. Mr. Paget observes, in regard to this, "How, or in what, the part of a tissue differs from another, I cannot tell; but some of these may not be even permanent, but may depend on different parts of a limb

* The italics are my own.

being in different stages of development or degeneration. The symmetrical parts of the tissues being in this respect exactly alike, may be equally and simultaneously affected with the disease, whilst other parts of the same membrane may be unaffected, until in the course of time, they attain by degeneration or development the very same condition as the parts first affected. Then, if the morbid material still remain in the blood, the parts also become diseased."—*Lecture the First.*

In addition to the influence exerted by individual peculiarities in predisposing to a concentration of the poison to one membrane rather than to another variations in what has been termed the constitution of the atmosphere tend to the same result, so that in one epidemic we find severe affections of the throat to be very common, whilst in another we find them very rare; and, again, in another epidemic, we constantly meet with dropsical symptoms and disease of the kidneys, whilst in another they are very rare.

I would observe, in conclusion, that my design originally was, as stated at first, to have sketched only the peculiarities of the last epidemic; but finding that this could not be done without treating of scarlet fever in general, I was induced to extend the memoir to its present length. This has unavoidably led to some fundamental errors in the arrangement; for instance, the subject of morbid poisons, which forms the conclusion, should have been the introductory part; the consideration of the poison of scarlatina, and of the causes modifying it, should have constituted the first instead of the second part; and the pathology and symptoms of the disease, its complication and *sequelæ*, ought to have formed the conclusion instead of the commencement.

Commercial-road, April, 1849.

PROGRESS OF MEDICAL SCIENCE.

FRANCE.

[From our own Correspondent.]

CHOLERA.

We have little new to remark with respect to the progress of cholera here. Many begin to despair of seeing the malady take its departure, and endeavour to accustom themselves to the idea of domestication; but, of this latter there can be little danger. The average mortality in the hospitals remains perfectly stationary, as does also that of the cases admitted; the latter being from 24 to 25 daily: the former from 14 to 15. It seems strange, that at this, the last period of the epidemic, the proportion of deaths to cases should still exceed 50 per cent. Even in the military hospitals, which have received only 34 cholera cases from the 1st to the 15th of this month, 16 soldiers died. In the city hospitals 542 patients were admitted with the disease during the same period, and of these 316 died. The difference is so light as to be easily accounted for by the difference of physical condition between the two classes of patients.

From the provinces we continue to receive deplorable accounts, not only of the ravages committed by the epidemic, but of the panic excited amongst the ignorant part of the population. In many localities fear seems to have banished every remnant of civilised feeling. The sick are abandoned without succour, and the military are compelled to bury the dead. Nor is the state of things confined exclusively to the rural districts. At Toulon the soldiers have been converted into grave-diggers, and a private letter from Marseilles gives the following account of matters in that city:—

"The cholera and the panic consequent to its appearance make rapid progress at Marseilles. On Sunday, September 9th, we had 60 deaths from cholera, amongst which, 10 of the military in town, and 10 in the outskirts. On the 8th, we counted twenty-eight shops closed in the Rue de la Canebriere, and the placards on them showed that the proprietors had absconded through fear. The Corporation now met, and declared its meetings permanent, in order to organise efficient aid. Six additional medical posts were opened, and the members present subscribed 3,600 francs to commence with."

It would hardly be believed, that in one of the principal cities of France no precautionary measures had been taken until the mortality reached sixty a day. But they do not now, as in Sterne's time "order these matters better in France."

Indeed the same want of foresight appears to have existed in relation to the sanitary state of the army at Rome. You know with what fatal effect malaria emanates from the Pontine marshes during the summer months, and that a residence in Rome during the sickly season is barely supportable even by those hardened to the climate. The French soldiers have been suffering cruelly from marsh fever, yet little or no preparations were made for an eventuality which everybody foresaw. Not only medical assistance, but the commonest remedies were wanting. This neglect, and an unusually unhealthy season have given rise to serious mortality amongst the conquerors of Rome, and rendered it necessary to send off a member of the Board of Health, with a host of physicians and apothecaries in his train. They started on Saturday last.

In the meantime His Holiness, the Pope, gives "plenary indulgence" to all French soldiers who may die in the Holy City; but this touching proof of gratitude does not diminish the mortality, and seems to be lightly appreciated by the "infidel Gaul." Indeed, I heard one of these unbelievers—a dragoon—assert, that the army would have been much better pleased had His Holiness distributed a '*petit verre*' of brandy to each man instead of a 'plenary indulgence." There is no accounting for tastes.

Apropos of military surgery, considerable sensation has been excited here by a most unfortunate exposure, which recalls to mind the corrupt practices that prevailed under the late dynasty. A staff surgeon of the first-class, occupying a high post in the Council of Revision, has been condemned to one year's imprisonment for having corruptly exempted several conscripts from service. He had made a lucrative affair of it for a long time, but was caught at last.

"Raro antecedentem scelestum
Deseruit pede, pœna, claudo."

As a kind of set-off against the above, I may mention, that M. Gaultier de Claubrey, member of the Academy of Medicine, and M. Dupins, an old military surgeon, have been raised to the rank of officers of the Legion of Honour. The red ribbon and the rosette are becoming almost as common as in the good old times.

The Garden of Plants received last week some rare specimens of Egyptian natural history from Clot-Bey. A new variety of rattle snake is one of the most remarkable objects.

It seems strange that the principle of a sanatorium could never take root in London, whereas it flourishes here, and has been found productive of great public benefit. The cause probably lies in the difference of habits between the two people. Besides the immense number of private "*maisons de santé*," we have a national sanatorium in the Faubourg St. Denis, capable of receiving 160 to 200 patients, who are lodged and treated in the very best manner for two, three, or four shillings a-week, according to the accommodation. Government is about to form two more establishments of the same kind, one in the Faubourg St. Germain, the other in the Chaussée d'Antin. It is a pity that the system of leaving everything to private enterprize should be pushed so far in England as to prevent our authorities from assisting similar undertakings.

A new species of bougie and catheter, made of gutta percha, has been recently introduced here, and highly spoken of by the hospital surgeons. It is probable, however, that the article is merely an importation from England.

The meeting of the Academy of Sciences on the 8th did not give birth to anything of importance in a medical way. M. Pellarin read a paper on the causes of cholera, and, like a pure chemist, asked whether it should be attributed to sulphuretted hydrogen or to ammoniacal gas? He inclines to think the latter. This is cutting the knot in a very simple manner.

M. Pasteur read a memoir on racemic acid, and the two acids of which it is composed, one causing polarised light to deviate to the right, the other to the left. It is, however, a curious fact, that racemic acid appears to have ceased to exist; at least its discoverer, M. Kestner, can neither find it in the products of his manufactory, nor reproduce it artificially.

NEURALGIA AND ITS TREATMENT.

Neuralgic affections appear to become more frequent every day, and to attack a much greater proportion of males than formerly. The older Practitioners were wont to regard this peculiar class of diseases as being confined to the branches of the fifth pair of nerves; but we now know that many other nervous branches are liable to this affection; and last year, M. Valleix broached for the first time, I believe, the doctrine of "general neuralgia," as distinguished from local.

A well-marked case of this "general" neuralgia recently occurred in the wards of M. Valleix at the Hôtel Dieu. It was characterised by severe neuralgic pain in almost every part of the body. The pains appeared to radiate chiefly from the spinal marrow as a centre; and not only the points of exit, but the parts supplied by the posterior column of the spinal marrow were sensitive in the highest degree. The pains likewise existed at various points of the exit of the fifth pair. There was no febrile excitement, and the pulse never rose beyond 120. The pains of the extremities were accompanied by a kind of trembling, somewhat analogous to that of delirium tremens. On the other hand, the case presented some appearances of a cerebral affection; but the differences from both were too well marked to admit of any doubt.

M. Valleix proposes etherizing the patient, and then applying transcurrent cauterization along the whole spinal column, a mode of treatment which has long been the hobby of the worthy Professor.

CHLOROFORM IN NEURALGIA.

In the above, however, we have a much less severe, and if we are to believe Dr. Delaroque, of the Necker, a more efficacious remedy against all kinds of neuralgic pains. Dr. Delaroque has been trying chloroform topically, and the result of his experiments is, that chloroform is 'the specific for pain." He relates several cases, from which I select the following:—A young woman laboured under hysteric cephalagia of a very severe form, and generally supervening on the cessation of the catamenia. Thirty drops of chloroform were dropped on a piece of cotton, and the latter passed lightly two or three times over the forehead. On each application the patient experienced a pricking sensation in the skin, and the headache was, for the moment, dissipated. Dr. Delaroque then held the cotton under the nose of the patient, who fell off at once into a gentle sleep for a few minutes. On awaking she was perfectly free from headache, and the author informs us that she has not heard of a relapse.

The second case was one of torticolis, accompanied by serve pain from contraction of the muscle, which often drew the head nearly down to the shoulder. The disease attacked a young person, twenty years of age, after suppression of transpiration. Slight friction, with the chloroform and cotton, was tried, as in the former case. The spasmodic pains ceased immediately. The same effect followed every successive application, and the patient recovered.

The third case related by Dr. Delaroque was one of syphilitic cephalalgia, which had obstinately resisted every attempt made, not only to cure, but to relieve the affection. Frictions with the cotton produced some alleviation, and when the chloroform was respired through the nose, the headache disappeared altogether. It was, of course, thought expedient to follow up the improvement by an antisyphilitic treatment.

While on this subject, I may allude to an interesting and rather warm debate which took place at the last meeting of the Academy of Medicine, on

chloroform and its effects. The debate was produced by a paper of the newly-elected member, and as it is an established usage in the Academy, as well as in our own Institutions at home, to snub the juniors, so M. Robert received many hard knocks; but he returned them with interest, and, to me, seemed to have by far the best of the argument.

Several fatal cases from the employment of chloroform have recently occurred here, and many others have reached us from foreign countries. It is also undeniable that we cannot tell beforehand what the effect of the application on the individual may be. As a few grains of calomel or opium will salivate or narcotise certain individuals, so a small dose of chloroform occasionally serves to develope fatal accidents in certain constitutions. Setting out from these premises, M. Robert asks, "Are there any premonitory symptoms which may serve as a guide, and warn us not to proceed any further with the administration of the remedy?" He has remarked, as indeed every other physician must have done, that in many cases the early symptoms of etherization are accompanied by excessive agitation, precipitous respiration, and disturbance of the motor function, nearly amounting to convulsions. In 120 cases where he had employed chloroform, he had met with three cases of this kind, and it was on this point that he wished to fix the attention of the Academy. The symptoms did not seem to depend on the dose of the chloroform, but on the individuality of the patient. Hence, M. Robert concludes, that when such symptoms appear, they are a warning to the medical man not to proceed any further.

M. Velpeau, who descended from the Presidential chair to answer M. Robert, made a long discourse in favour of chloroform; but I confess myself unable to guess the conclusion at which he desired to arrive. He did not deny that the use of chloroform was occasionally dangerous; but, on the other hand, he refused to admit as proven that *any* of the deaths mentioned were really occasioned by that substance. In one of the cases, death was instantaneous; and it was impossible to believe that the remedy had proved fatal, before it was respired. In fact, MM. Velpeau and Roux seemed to argue that chloroform could never be fatal, because it had never produced fatal consequences in their hands. M. Roux likewise adverted to the mode of administering chloroform which is often employed, but which he denounced as faulty in the extreme. It is absolutely necessary to have an apparatus with which the air may penetrate to the lungs at the same time as the vapour. If this be attended to, he had not much apprehension of any unpleasant or dangerous effects.

These arguments leave the objections of M. Robert entirely untouched, and it is probable that prudent operators will prefer attending to his advice rather than incur the risk of despatching their patients through ill placed confidence.

GERMANY.

[From our Berlin Correspondent.]

Since cholera has prevailed in Berlin, that is, from the end of May to the present time, the number of persons attacked has amounted to 4500, out of which, about 3000 have fallen victims to the malady. At present, the daily returns of cases average 30, denoting a decrease in the intensity of the disease, and affording a hope, that we may soon be relieved *in toto* from the scourge.

A member of the Medical Council, Dr. Schutz, has lately issued a publication, founded on official data, and giving a view of the five outbreaks of the epidemic which have visited Berlin. The first four took place in the years 1831, 1832, 1837, and 1845. The result of his observations show, that the proportion of cures to the proportion of deaths (2 to 3) has always been the same; that certain quarters and streets suffered more than others, especially the middle of the town, which is surrounded by the ancient fortress dyke, and contains narrow and densely populated streets; and that the contiguity to water seems innocuous, provided it be not stagnant.

I acquainted you, some time back, that associations had been formed among the working people of Berlin to insure medical aid. In some districts of the town tradespeople also follow the example. The following rules are observed. The members choose a Managing Council, who receive the contributions and elect a medical man, who must reside in the same quarter of the town. Every single person contributes one-sixth of a dollar—sixpence,—and every family one-third of a dollar—one shilling a year; this entitles them to medical advice and medicines; and demonstrates, in a small way, with what zeal the principles of association are carried out.

It is reported, that an alteration is to take place in the mode of granting medical diplomas. They are to be accorded at a more moderate cost; but the aspirants are previously, instead of subsequently, to be subjected to the Staats Prüfung, or Government examination. Until now, the doctor's degree cost 30 Friederichs d'or, and was utterly useless, since, although possessing one, no one was allowed to practise without undergoing the State-examination, and possessing, in addition, the Government authority.

This day (the 14th September) is the eightieth anniversary of the birth of Alexander Von Humboldt. Permit me, therefore, to bring to your recollection the great naturalist, who, no doubt, has many friends and admirers among your readers. Notwithstanding his varied and active career, and his many wanderings in the course of his long and chequered life, his mind has retained the freshness of its youth, and his body its activity and strength. To speak here of his scientific merits would be superfluous; they are engraved on the memory of all; but I may add, that his character as a citizen is not inferior to his reputation as a philosopher. No one knows better than Humboldt, how to foster and encourage talent; and Germany has to thank him for having raised from obscurity many of her most eminent scientific men.

From Austria we receive the melancholy tidings of the death of one to whom the Medical Profession there is much indebted, viz., Baron de Feuchtersleben. In 1848, when Germany was cradled in the sweet dream of emancipation from ancient error, and indulging in the fond hope of breaking the rusty and time-worn chains of custom, Feuchtersleben was named Secretary to the Board of Public Instruction. In this situation he sought, with untired devotion, to bring about the regeneration of his much loved Fatherland. But the political convulsions of the country interfered with his plans, and prevented all his endeavours to re-organise the system of education. Reports say, that this noble and much-loved man died of grief for the present melancholy state of his native land. (a)

(a) [We have much pleasure in stating, that one of Feuchtersleben's most popular and interesting works - his "*Diætetik der Seele*," of which five editions have been published in Germany—is now passing through the Press in an English dress, and under the editorship of Dr. Bushnan.—Ed. *Med. Times*.]

Sanitary State of the Tower.—In consequence of the recent deaths amongst the troops quartered in the Tower from cholera, and the sickness of many, His Grace the Duke of Wellington, the constable of the fortress, has ordered, that the strictest inquiry should be made by the Medical department as to the general sanitary state of the barracks, the sewerage, and cleanliness, but particularly the quality of the water consumed by the garrison and inhabitants, which has, for a considerable time, been very much complained of. Although the ditches that surround the Tower have been dried up, and many other great improvements made, especially the spacious new barracks, there is one most important article of salubrity wanting—a pure supply of water, there being no wells in the fortress, and the spring-water has for years been procured by the troops from the pump in Postern-row, Tower-hill. There are near 3,000 inhabitants in the Tower, including the garrison.

Complaints having reached us of the irregular delivery of the Medical Times *in the country by the Booksellers and Newsmen, we state, for the information of our readers, that this Journal is always published early on Friday afternoon, so that it may reach the Provinces by post on Saturday morning.*

Correspondents are requested to address their Communications to "The Editor of the Medical Times *147, Strand."*

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THE MEDICAL TIMES.

SATURDAY, SEPTEMBER 22, 1849.

Design and wisdom are impressed upon all the operations of Nature. The contemplation of the phenomena throughout the moral and physical world, forcibly illustrates the fact. "Partial evil is universal good." The poet, in few words, has embodied a just and important axiom. But, while it is at once accepted, it is seldom brought home to the heart, or appreciated by the understanding, in all its comprehensive truthfulness. It is pregnant with thought, and rich in practical application.

Man owes his existence, the development and the conservation of his powers, to the temporary evils to which he is subject. Life is one vast and ever-varying series of changes, and is surrounded by agents equally fitful in their condition and action. Both are in incessant motion, giving and receiving the elements of vitality. The uninterrupted interchange between them is a wide field, the cultivation of which falls within the domain of physiology and natural philosophy. The former, in association with chemistry, explains, with considerable accuracy, the nature of the organic operations of the animal system, specifies the different constituents which enter into the constitution of living matter; the latter treats of more general causes, on which animal and vegetable life depend; and, on its cessation, they continue to act, facilitating the process of decomposition, and, at the same moment, appropriate the materials, thus liberated, to fresh combinations. Among these general causes are the gaseous principles of the atmosphere, and its condition with respect to temperature, moisture, and weight, all of which admit of precise valuation. There is still one other agent which plays an important part throughout the universe, viz., Electricity, to which we have not adverted; and it is probably the great cause, on the modifications in the distribution of which all changes in the world without us are to be traced.

In regard to it, however, our knowledge is imperfect. We may collect it, analyse the effects it produces, and lay down the laws of its action; but of the function which it performs in relation to all matter, inert as well as organic, and especially in relation to ourselves

as animated beings, we comparatively know nothing. It will not be doubted, that almost all substances *obviously* possess it, and it will be as little questioned, from its known laws, that its quantity, consequently its influence in reference to these substances, is not fixed but ever fluctuating.

The deductions we might suggest from this fact, in illustration of our subject, and particularly in its bearing on the present awful Epidemic, are such as spontaneously arise from the foregoing train of thought.

As all matter abounds in electricity, and as it is evolved in all the changes of animal and vegetable life, as well as in the silent but magnificent operations of nature, carried on throughout the ample surface of the earth, and the equally extended world of waters, the amount at any one time existing in the earth and the air we breathe, will clearly be liable to great modifications. A familiar exemplification of this truth, is the occurrence of thunder and lightning after long-continued heat, the effect of which has been the accelerated operations to which we allude, uninterrupted in their course, until the balance of the vivifying agents of the atmosphere is disturbed,—Nature gives evidence of disorder, and expresses it in the sublimity of the convulsed elements.

These are temporary changes. May it not, however, occasionally happen from causes which it is impossible to define or even speculate upon, that the natural electric conditions of the earth or the air, may be somewhat permanently modified to an extent prejudicial to animal and vegetable life? Supposing such to take place, it is evident that new relations would be established between the electric fluid and the animal economy, the nature of which might be a deficiency in the usual proportion of this principle. No argument is required to prove that the electricity we possess is necessarily in general equilibrium with all objects around us, subject only to such differences as may possibly arise from local circumstances.

Agreeably to this view, Cholera may be referred to the altered electric conditions of the atmosphere. New susceptibilities of the animal system are created,—a predisposition to a particular species of derangement.

That state of the vital powers in which such predisposition originates, may be regarded as pervading more or less society at large, modified in its susceptibility to disturbance, by a variety of circumstances, such as the inherent tone or energy of the animal system, the habits of the individual, his mode of living, the character of a variety of influences to which he may be exposed, as well as the nature of the district in which he resides, as far as it is affected by the qualities of soil, and the manufacturing and other operations carried on. All such causes are to be considered, in taking an extended or philosophical view of the subject. According to the hypothesis here proposed,—which, whether true or false, would refer the predisposition primarily to the existence of peculiar electric conditions,—there is comparatively little difficulty in offering a rational explanation of the occurrence of this appalling Epidemic. Two things only are necessary for its production,—*the susceptibility, and a cause sufficient to disturb the balance of the vital powers.* The former, while it originates in the particular cause assigned, may, nevertheless, be aggravated to an extraordinary extent by the whole class of those agents or circumstances which are usually designated predisposing; and when brought to an exceedingly exquisite point, several of the same predisposing causes will at once be converted into the exciting, and give rise to this disease.

Why, then, should we believe that a mysterious agent or principle is in any way concerned in the effect? One general cause of the susceptibility exists, and if this be developed in an exquisite degree by any of the circumstances specified or implied, the slightest imaginable cause, whether internal or external, will at once excite the formidable symptoms.

There are many considerations, did our space permit us to pass them under review, that might be shown to strengthen this train of reasoning. The prevalence of diarrhœa, affecting more or less all classes of society, might be wielded with no less plausibility than power, in support of the above conclusions. Such a symptom is a direct illustration of the peculiar susceptibility of the nervous system to derangement; and in what manner does this arise, except from the modified electric conditions of the objects around us? It is clear that it cannot be ascribed to any property or influence excited by the ingesta, though these, under existing circumstances, may become exciting causes. For an efficient cause, we must look to something far more general,—a something which operates with different degrees of force on society at large; and what is so probable *as the altered electric conditions of the earth or air?*

We are aware that very grave objections may be urged against these views. It may be contended that a cause so general ought to produce far greater effects on both the animal and vegetable kingdom, than fall under notice. But in answer to this we might suggest, that the susceptibility, both in the animal and the vegetable, may depend not only on peculiar combinations of matter, but that the susceptibility which would otherwise arise, is kept in abeyance, especially in the animal, by a variety of circumstances unfavourable to its development, which the want of space will not permit us to particularize. But, after all, these remarks are merely suggestive,—thrown out for the consideration of our readers. We may, however, soon again revert to a subject so full of interest.

THE EVILS OF ENGLAND.—POOR-LAW MEDICAL RELIEF.

"A FAIR day's wage for a fair day's work," is the prayer of the industrious poor, the war-cry of the heartless professional agitator, and the hope of the sanguine theorist. That it is all these sufficiently indicates, that average industry and capacity will not always insure an average subsistence.

But if fluctuations of commercial prosperity, or those changes of different callings which are inseparable from the progress of machinery, can suddenly paralyse the working arm, and with it all those that depend upon its exertions, and can thus reduce thousands to the ranks of the disabled,—much more can sickness or disease. And whatever may be said by the speculative, we incline to think, upon high authority, that poverty and disease will ever accompany each other; and if ultimately they separate, it will be at a period very, very far distant from September, 1849. Until then, at any rate, we may hope and trust that the English nation will always recognise real destitution as a sufficient claim for support; and the superadded misery of sickness as a superadded claim for medical relief.

But what is to be the source of this medical relief? Whence is it to flow? Obviously, both kinds of assistance ought to come from the State; while it would scarcely be an exaggeration to assert, that at least half of it is at present thrown on the Medical Profession. Their services are in one way or another at the command of every man, woman, or child, within the realm; while a vast proportion of the assistance they render to those occupying a position below the scale of positive affluence is either not paid for at all, or so inefficiently as to render it partially, or to a great extent, gratuitous.

The medical advice given to the poor may easily be separated into two kinds. Directed towards the same objects, and flowing as it were in the same channel, this broad river consists in reality of two streams—like the Moselle and the Rhine at Coblenz. The one clear and sparkling, and of pure benevolence; the other an exceedingly dirty, turbid current of Poor-law Medical Relief. They run side by side, but do not mix. It is the muddy river we now intend to analyse. Upon the question of medical remuneration, as comparing it with that afforded to other Professions, we will not enter, fertile as the subject is in matters of deep thought and bitter sarcasm. We will not even contrast the workhouse Chaplain or the Clerk of the Board with the Union surgeon, although the comparative amount of work and pay would almost epitomise all we are about to state. We take a higher ground, and ask, not whether Poor-law surgeons are properly remunerated, but whether they are remunerated at all? Let us work out the answer.

The surgeon has to give two things—medical skill and drugs. Wherever the objects of relief are at all widely scattered, the laws of matter require a third element to be added to the contract—viz., the means of conveyance.

The last two elements being visible and tangible, and of a definite cost, we must, after making an estimate of their amount, subtract them from the total sum paid. The residue will be—the remuneration for professional skill.

But those of our readers who do know the nature of arithmetic, and do not know the nature of Poor-law Commissioners and Guardians, will be surprised to hear that this simple statement is incorrect. In the vast majority of cases the residue is—nothing at all.

We can imagine a grey-headed Union surgeon stepping forward, and again correcting our arithmetic. "Dear Mr. Editor," we hear him say, "I wish it were nothing at all. At school I was taught that there were such things as negative quanti-

ties. This fact my practice has never allowe me to forget, for the salary does not cover th expenses, and I am *minus* five or ten pound annually by the contract." We cannot bette illustrate the truth of these statements than b adducing a fact which speaks for itself. Ther are many Dispensaries, the Medical Officers which professedly give their time and skill gra tuitously, so that the sole expenses of the insti tution are those of the drugs and medical appl ances, where, as in some of them, no patient i received without a subscriber's letter of recom mendation. There the cost of each case ca easily be calculated, and, as a rule, it i considerably above that of the Poor-law con tract. We have known instances in which th average remuneration per case of the latter ha been scarcely more than half the average cos of the former.

How are we to explain this significant con trast? Say, rather, what is the result?

There are many instances—we believe they are the vast majority—in which the Medica man gives his strength for naught, and consc entiously performs his duties at a loss of time and trouble—it may be, also, of money. But there are other instances probably in which, as migh be expected, inefficient pay is met by inefficien services, and the shameful avarice of the rich is thus avenged upon the defenceless poor. God forbid such conduct should be defended; but it is impossible to avoid remembering that it is often negative and almost unintentional—an omission instead of a commission, an imperceptible habit instead of an overt act, or a necessary result of individual incapacity. But indefensible as it may be, it is no more than what might have been expected, perhaps, no more than was really foreseen by the inventors of that great "misery-test, of which medical relief thus forms a part. The constituents of this inefficiency are easy to trace. Neglect in visiting the sick pauper is the effect, though a much rarer one, we firmly believe, than wooden-headed jurymen and Dogberries are apt to believe. The quality of the relief itself is much more affected, both as regards the skill of the attendant, and the nature of the drugs. An inefficient Practitioner is sometimes the only man who will accept such an appointment. In other instances, a raw student, armed perhaps with the botanical medal for which he sold his medical education, underbids an educated Medical Practitioner, or an unqualified apprentice, or scarcely more qualified assistant, hidden behind the shield of his employer's credit and reputation, lets fly his fatal arrows with an effect that fully entitles him to the praises awarded by the Hebrew woman to Saul and David. The meanness of a pauper pharmacopœia may by some of our readers be deemed fabulous, yet it constitutes in reality one of the methods by which a sordid man contrives to make both ends of the contract meet.

Few, by comparison, as these instances may be, there is not the less stress to be laid upon them. They constitute, in fact, one horn of the dilemma, and enable any man of sense to see that the present system of Poor-law medical remuneration necessarily does one of two things,—either *cheats* the Medical man, or (we say it advisedly) *kills* the poor. One of the tw is inevitable. And we may also notice, the ver nature of medical relief requires not only that should be tolerably good, but the best that ca be commanded in the particular locality. Th ordinary difference established between th diet of necessity and of luxury finds n parallel in the case of medicines; unless, indeed, it can be proved that the poor are con stituted differently from the rich, and tha the difference renders them less liable t disease, and more amenable to remedies. Bu this physiological and therapeutical distinctio is scarcely established, and it is most importan to recollect that, so far as we know at present the poor really are of the same flesh and bloo as ourselves. Would that it were a truism t say so!

But it only remains for the Medical Profes ion and their organs in the public Press t lose no opportunity of pointing out the folly and, we may add, the criminality, of the presen system. Agitation is one of those things o which the statement, otherwise a very equivoca one, may fairly be made; viz., that success stamps it with propriety. And already there have been sufficient symptoms of yielding to he pressure from without, in the shape of the extras which have been allowed of late years. o make it very evident, that continued and reiterated exposure of the evils of the existing Poor-law Medical Relief, will finally lead t their removal.

THE COMMISSIONERS IN LUNACY. THE DEFECTIVE STATE OF THE LAW OF LUNACY.

The Commissioners in Lunacy have addressed a letter to the Lord Chancellor, expostulating upon certain opinions which were enunciated from the bench by the Lord Chief Baron during he recent trial of Nottidge *versus* Ripley. His Lordship is reported to have stated most emphatically, that no person ought to be confined n a Lunatic Asylum who is not dangerous either o himself or to others. "It is my opinion," said His Lordship, addressing one of the Commissioners, "that you ought to liberate every person who is not dangerous to himself or to others. f the notion has got abroad that any person may be confined in a lunatic asylum or madouse who has any absurd, or even mad opinion pon any religious subject, and is safe and armless on every other topic, I altogether and ntirely differ with such an opinion, and I dere to impress that opinion with as much force s I can do in the hearing of one of the Commissioners." The principle, so clearly and so umanely propounded by His Lordship, was eceived with acclamation by the Press; whilst, aturally enough, His Lordship's observations ave some umbrage to the Commissioners in unacy, and was received with dissatisfaction y the proprietors of Private Lunatic Asylums, hose interests would be seriously invaded if ich a recommendation were adopted. We find, herefore, Dr. Conolly—himself, the proprietor Lawn-house,—entering the field with "a reonstrance," in the first instance, with the ord Chief Baron upon the heresy of his doctrine; nd the Commissioners in Lunacy next addressg a letter, signed by Lord Ashley, to the Lord ligh Chancellor, respectfully submitting that "the opinions ascribed to the Chief Baron are likely seriously to mislead the Medical Profession and the public."

We have reason to believe, that the Medical Profession and the public are equally dissatisfied with the administration of the existing law of lunacy, which does not appear to provide any adequate protection for the liberty of the subject when accused of being insane; and which does not afford any guarantee that persons who, unhappily, are so afflicted, and whom it may be necessary to place in confinement, shall be treated with kindness and humanity. The present system is in all its bearings involved in darkness and mystery; the transactions which take place in the office of the Commissioners in Lunacy in New-street, Spring-gardens, are conducted as closely and as secretly as were the iniquitous proceedings in the Star Chamber of old in Westminster; there, questions affecting the liberty f the subject are summarily discussed and disposed of without a single reporter from the public Press being permitted to be present; yet in all cases where a person is found to be insane by a writ *de lunatico inquirendo*—that is, before a special jury, reporters are always admitted, who watch and report the proceedings. The secresy which veils the transactions that take place in the office of the Commissioners in Lunacy is, we believe, offensive to, and embarrasses even the proprietors and superintendents of these establishments themselves; for not unfrequently they find that all rules of courtesy and the principles of the common law of England are alike set at defiance. Then, again, the doors of Newgate itself are not more hermetically sealed against the admission of visitors and friends, than the gates of most private Lunatic Asylums; so that a person might, in such *quasi*-prisons, be immured for months, or even years, without the place of his detention being ascertained by those who may be most nterested in the discovery. And all this, be it observed, takes place under the jurisdiction of a Commission in Lunacy holding its inquisitorial meetings in the west end of the Metropolis, almost within a stone's throw of St. Stephen's. We do not, therefore, wonder that, ever and anon, cases are dragged into our Courts of law, the details of which excite a shudder in he public mind. Take, for example, this memorable trial of Nottidge *versus* Ripley. Here was a lady entertaining opinions more extravagant, it is true, than could have been suggested by any form of heathenism; nor do we doubt, for a moment, that they were sufficiently absurd and monstrous to evince a state of positive monomania; but how was she dealt with? Her demeanour is reported to have been, on all occasions, free from any indications of excitement; her manners were always affable and gentle, and however preposterous may have been her notions, she reasoned upon them with calmness and perfect self-consistency. "She was," observed one witness, "anything but a mad woman, and always quiet in her conduct." "She was always," stated another witness, "of a mild, calm, and lady-like turn of mind." Why, then, was she not permitted to enjoy her opinions in her own way, and live, if it so pleased her, in a world of her own fancies? The

reason is obvious. The lady possessed property; her immediate relations were afraid that she would, as other religious enthusiasts have done, assign it over to the favourite sect to which she had attached herself; and, in order to prevent this, they determined to have her certified as a lunatic, and shut up in an asylum. Accordingly, Medical men were consulted on the subject of her religious delusions, and the present lax mode of obtaining the certificates necessary for admission into a Lunatic Asylum were had recourse to. Hereupon her brother-in-law, with two other gentlemen, proceeded to the cottage, where she was living quietly and unobtrusively, effected an entrance at the back of the house, forced their way into the room where she was sitting, and, despite her tears, screams, and struggles, dragged her away without bonnet, cloak, shawl, or shoes, and forced her into a carriage, which drove off as fast as the horses could go to Hillingford-house. Now, with all deference to Dr. Stillwell's well known humanity, we think this banditti-like style of taking possession of a patient most reprehensible. She was not a furious or rampant lunatic; and there appears to be no manner of excuse for so outrageous a proceeding.

Here, then, was the lady, incarcerated for seventeen long months, during which period her case was brought six times under the special consideration of the Commissioners, and here was she denied the privilege of communicating with her other relations and friends, who in vain sought to discover the place of her retreat. The unfortunate lady at length effected her escape, and, although she was speedily recaptured and brought back to the Asylum, the place of her abode was now made known, and an inquiry set on foot, which terminated in her being discharged by the Commissioners themselves, who, be it observed, set her at liberty, while she still, as pertinaciously as ever, maintained the same religious delusions which had led to her being certified as a lunatic, and which the Commissioners previously held to be significant of insanity. Why, we may fairly ask, did they permit so cruel an episode in her history as her detention in a lunatic asylum for seventeen months, and then restore her to a liberty which she was, upon their own showing, as capable of enjoying on the first as on the last day of their visitation? "Was this lady dangerous, Mr. Mylne," asked the Lord Chief Baron, "to herself or to others?" "Not that I am aware of," answered the Commissioner. "If she were not so," retorted the Lord Chief Baron, "how was it that you kept her in this Asylum for seventeen months?" "My Lord," answered Mr. Mylne, "it was no part of my duty to keep her there." What! was she not confined in this Asylum under the very warrant of Mr. Mylne himself and his brother Commissioners? And was it not their duty to liberate her if they found her capable of enjoying her liberty in a rational manner? We do not wish to deal harshly with the Commissioners in Lunacy, who have difficult and responsible duties to perform; but we should like to know how many unfortunate persons may, at this moment, be immured in a similar manner, and denied all access to, or communication with, their friends? Such a system savours more of the rigours of a Bastille than of anything like an enlightened mode of managing Lunatic Asylums!

The principle laid down by the Lord Chief Baron, that no person should be confined in such establishments' who is not dangerous to himself or to others, is, we believe, sound;—but who is to determine whether a patient labouring under religious delusions be dangerous or not? Who can anticipate the hallucinations of the future—the voice or the vision—which may instigate the hallucinant to raise the homicidal or the suicidal knife? Not many years ago, in Paris, an apparently harmless visionary cut the throat of his wife and his three children under the delusion that he heard a voice from heaven commanding their blood to be offered up in atonement for their sins. "The difficulty of ascertaining whether one who is insane be dangerous or not"—the Commissioners, in their appeal to the Chancellor, observe, "is exceedingly great, and, in some cases, can only be determined after minute observation for a considerable time. It is the general opinion of experienced persons, that whenever an insane delusion exists, the patient can in no case be considered as otherwise than dangerous, although the tendency may never have been actually exhibited by overt acts or expressions; and, in our own experience, we have known patients whose disorder has appeared to have abated, and who have been treated as harmless for a considerable time; but who, nevertheless, upon some sudden and apparently unprovoked impulse, and without betraying any preliminary violence or irritation, have attempted, and in some instances have effected the destruction of themselves or others. In the cases of monomaniacs, and patients suffering under religious and other delusions (not apparently tending to any dangerous result), we have known repeated instances of their attempting and committing self-destruction, homicide, and acts of violence, owing to some imaginary sentence of condemnation, or under the influence of some imaginary voice or spirit."

All this we believe to be strictly true; but then, how came the Commissioners, with all their official experience before them, to discharge a patient who came under this very category, and who, the moment she obtained her liberty, assigned over all her funded property to the man whom she believed was God in the flesh. "The only fault," observes Dr. Conolly, "of which the Commissioners seem to have been guilty, was that of ordering her liberation from Dr. Stilwell's Asylum; but they thought her health declining, and could not foresee all the consequences." Save us from our friends! The declining health of the lady should have rather pleaded with the Commissioners for their further protection,—if, indeed, she required it at all,—instead of which, with her constitution impaired by anxiety and long confinement, with all her delusions thick around her, they resigned her to the tender care of Mr. Prince, the founder of the Agapemone, the abode of love.

The Lord Chief Baron, looking to the amount of property involved, and the circumstances of the gentlemen of the Agapemone having married three sisters so much older than themselves, and thereby possessed themselves of all their property, very properly observed, that marriage settlements ought to have been made, and that, in the present case, a medical examination and inquiry by commission should have been instituted. Upon which the Commissioners observe: "The opinion attributed to the Lord Chief Baron, that a Commission is necessary in all cases, in order to give the confinement the sanction of the law, appears to call for some remark. It is hardly necessary to observe, that proceedings by Commission are, generally speaking, advisable only where the insanity is likely to be of a permanent character, *and the property of the lunatic is of such a nature* as to require them, and of an amount adequate to meet the expense, always considerable, and, when the Commission is contested, frequently very large."

The Commissioners add, "That the finding of a jury is in no case essential, in order legally to justify the confinement of a person of unsound mind. In fact, out of 4,028 private patients (many of them possessed of considerable property) who were confined in Asylums on the 1st of January, 1848, only 215 had been found lunatic by inquisition."

This is truly lamentable! It would appear as if the property of the lunatic were the only criterion of his protection; for if his means do not afford the expense of his being found insane by a jury, the process for his confinement is simplified by the adoption of the forms prescribed by the present Act of Parliament (8 and 9 Vict. c. 100) which we have no hesitation in affirming are lax in the extreme, and liable to be abused. Two medical certificates are, it is true, required, each of which must be signed either by a Physician, a Surgeon, or an Apothecary, who may, it is true, not be in partnership, or in any way connected with each other, and the examination may, in each case, be separately conducted,—notwithstanding which, both these parties may have an indirect interest in the detention of the patient, or they may not have made a speciality of the study of Insanity, and be incompetent to pronounce a correct judgment. We lay it down as a principle which should be held inviolable, that no person whatever, who has any interest in the detention of an alleged lunatic, should be competent to sign any document that shall lead to his confinement. Who signed, in the present case, the order for Miss Nottidge's reception into Hillingford-house? One of those very relations who had an interest in her detention as a lunatic. Once admitted into a private Lunatic Asylum, what guarantee is there that the inmates shall be kindly and humanely treated? Not long ago a case was brought into one of our public Courts, of an unfortunate lunatic, who, being deprived of her income by some iniquitous relatives, was unable to pay the scale of charge required for certain comforts, and was permitted, consequently, to lie on the bare flag-stones, and denied the common necessaries of life. The visitation of the Commissioners, we are willing to believe, affords a certain protecting surveillance, but, with all their untiring energy and industry, their administration fails to carry out the objects of the Legislature; hence, whenever cases of this description are brought into Court,

the "secrets of the prison-house" reveal abuses which naturally excite a prejudice in the public mind against all establishments of this description. But we must here pause. A thorough revision of the present system of the Law of Lunacy is imperatively required;—the subject is one of great public importance, and we propose returning to it anon.

THE NEGLECTED FATHERS OF PHYSIC.

Five centuries ago, the opinions of Hippocrates and Galen reigned triumphant in the Medical world, and the Physician was considered accomplished, in proportion to the knowledge he possessed of the works of those celebrated men. The servile obedience rendered them for more than twelve centuries, by the practitioners of the healing art, was derogatory to the human mind, and injurious to the progress of science; and it was only by the efforts of some great master spirits, that medicine received a new impetus. Since the revival of learning in Western Europe, the authority of the "Fathers of Physic" has progressively declined, and in our day Hippocrates and Galen are ridiculed, instead of reverenced, and their voluminous writings remain undisturbed on the shelves of the few libraries in which they are found. It is singular that names once so celebrated should now be shorn of so much of their glory, and, did our space permit, we think it would be no unprofitable undertaking to trace out the cause or causes which contributed to their decline and fall. Science alone has not been instrumental in doing this. Truth is always just; for, while it will divest men of every honour to which they are not entitled, it leaves intact all that of right belongs to them. If, therefore, those once illustrious men had been arraigned at the bar of science, and had been there sentenced, they would now occupy an eminent position in the Medical world. The learned in all ages have be[illegible]sible of the merits of th[illegible] Fathers of Physic;" and it is to be regretted that the doctrines they taught, and the practice they adopted, have not been fully made known to the English Medical Practitioner in his own language. In speaking thus, we do not wish it to be understood that Hippocrates and Galen should again become models for our imitation, but that we may glean from their works all that is valuable, and reject all that is worthless.

In many of the sciences ancillary to medicine, their knowledge was far inferior to ours; in others they attained an eminence to which we have never yet arrived. Had we possessed a complete translation of the works of the Greek physicians, or had the language in which they wrote been more generally understood by us, we should not have awarded to some men of modern times, the merit of many discoveries in Physic and Surgery to which they are not entitled, neither would the great subject of hygiene have been so long neglected by us.

The works of Hippocrates and Galen contain a complete imbodiment of the practice of Physic in ancient times. It has been customary to call the former "the Father of Physic." To this appellation, however, he has no just title. There had been eminent individuals before his time who had studied and practised the healing art,—who were intimate with what is even now considered most essential in our science; for they knew and employed almost all the important and fundamental means of cure which have reached our times. Hippocrates, however, collected and condensed the great medical truths which had successively been developed in preceding ages, and to these he added the discoveries of his own exalted mind.

According to Galen, he held the first rank amongst philosophers as well as physicians. Even Plato paid the greatest deference to his opinions, and it is said that the writings of Aristotle are chiefly commentaries on his philosophy. His attention, however, to symptomatology is that which has principally gained him so much renown in the republic of medicine. He studied the countenance, the eyes, the position of the patient, his loquacity, or taciturnity, his respiration, his excretions, secretions, fæces, urine, perspiration, sputa, saliva, and tears. He is even said to have employed the sense of taste, in order to discover from the secretions the nature of the disease under which the patient laboured. His remedies were of the most active kind. He bled freely, employed aperients and diuretics, but his principal reliance was on dietetics, a subject which by us has been too much neglected, and in which none have ever surpassed him. He was a good surgeon, and appears to have performed many of the most important operations.

Galen, however, excelled Hippocrates in the extent of his information and in the eminence which he attained. For more than twelve centuries, he kept the Medical world in complete subjection, and the veneration in which he was held at one time was such, that men regarded him as a God, and paid religious worship to him. More than four hundred books are stated by Suidas to have been written by him on medicine and philosophy, and seven or eight immense folios of his works have reached our times. These are valuable from the large number of facts they contain, and will well repay the modern Medical Practitioner who shall peruse them. The faults of Galen, however, are many; yet they are chiefly attributable to the age in which he lived; and considering the numerous disadvantages under which he was placed, he is entitled to greater admiration for having left on record so many important facts. From the number of his writings, it is evident he was a man of indefatigable exertion; and in these times of inquiry, it is matter of astonishment that such an one is scarcely known except by name. A recent writer has justly remarked, that "Galen was no slavish and ignoble plagiarist. In thought, as in action, he appears to have been free; and those thoughts are evincive of superior genius, improved by all the arts and sciences of his own and of preceding ages. His works are a library of past events, an encyclopædia of facts from every branch of Medical literature, and forestalling many of the most extraordinary events of our own times; while, even in experiments and in operations, *considered as novelties* in the present day, he has preceded them."

It is to be regretted, that the works of these two great Medical Authors have never yet been entirely translated into English. Surely we have in our profession men of sufficient learning and courage to undertake the task. The numerous Latin Editions extant would considerably facilitate the labours of English translators, and we think their efforts would be appreciated by our Medical brethren. Why does not the Sydenham Society move in this matter? We understand this Society intends publishing the works of Hippocrates, and we hope that they will be followed by those of his illustrious Commentator. If the funds are adequate to the undertaking, we think there are scholars enough amongst us to accomplish the task.

THE PROPOSED CONFERENCE ON MEDICAL REFORM.

The Council of the National Institute, as we have before intimated, anxious to obtain the most extensive accordance of opinion that is possible, upon the subject of Medical Legislation, have resolved upon convening, in London, a Conference of Delegates, from all the Associations that have either opposed or supported the policy they have themselves advocated. The Colleges have had their Conference, and it is but fair that the unrepresented mass of the Profession should also have theirs, so that the interests of all classes should receive due consideration. The views of the Colleges are now clearly understood, and their policy is fixed to certain points and principles from which, without incurring disgrace, they cannot retire. Discussion has sobered their pretensions, moderated their ambition, and softened much of that ruggedness and asperity of demeanour which they have been wont to show towards their unprivileged brethren. Corporate interests which, through long years, had been allowed to grow up and sprout out in all directions, to the injury of other classes, and of the general welfare, have been clipped and trimmed, and something like a mutual adaptation to the claims of each, and to the necessities of all, has been arranged.

The Council of the College of Surgeons is, however, still refractory and unaccommodating, and refuses to grant the right in law of examining in surgery to the new College, without which that College would be a failure, so far as regards the lofty aspirations of its promoters. We presume, that the object of the proposed conference will be to take the sense of the Profession upon this point, the only point in dispute between the National Institute and the College of Surgeons, and which prevented legislation last session.

If the College of Surgeons will not concede the right in law of examining in surgery to the new College, shall it be compelled to open its doors to the Profession at large, and to assume to itself the important functions of a College of General Practitioners? A Board exercising these functions is a necessity of the day, and the Council of the College may depend upon it that the common sense of the public and the Profession will shortly ride down all opposition, and command a solution of the difficulty in one of the two modes now indicated. The Council must make its selection; it cannot continue to trifle with the great interests of the Profession,

or to mock any longer the hopes of its members. It is better to yield to a strong wind than to be broken down by a tempest.

The following is a copy of a Circular Letter issued by the National Institute, preparatory to the convening of a Conference :—

[Copy.]

NATIONAL INSTITUTE OF MEDICINE, SURGERY, AND MIDWIFERY.

Hanover-square-rooms, Hanover-square, September 5th, 1849.

I am requested, by the Council of the National Institute of Medicine, Surgery, and Midwifery, to forward to you the following copy of a resolution, passed unanimously at the General Meeting of the Institute, held at the Hanover-square-rooms, on the 8th day of August, 1849 :—

"*Resolved.*—That this meeting cannot too strongly urge upon their Medical brethren the necessity of united action ; and they recommend, that the Council of the Institute do forthwith convene a General Conference of Delegates from the various Associations that have been established for the purpose of effecting a reform of the laws governing the Medical Institutions of the Kingdom, for the special purpose of securing as extensive an union of sentiment and action as possible upon the main principles of Medical legislation."

I am requested also to state to you, that, during the last two Sessions of Parliament, the Institute has acted in concert with the Corporate Institutions of this country, for the purpose of obtaining an Act of Parliament reforming the laws by which at present the Profession is governed; in the earnest hope, and with the just expectation, that a conciliatory course of conduct would insure success. From causes, not originating with itself, which have been explained to the Profession, the efforts of the Institute, acting by its representatives in the Conference recently held at the Royal College of Physicians, have for the present been defeated by the defection of one of the parties from the principles to which the Conference had unanimously agreed.

Upwards of twenty years' agitation in the cause of Medical Reform, by numerous Associations successively, and of late years by the National Association and the National Institute, under different governments and the most variable circumstances, has tended only to confirm the truth, which developed itself at a very early period, that this great political, social, and professional object, is only to be achieved by opposing the combined efforts of the great body of the Profession against the narrow and exclusive policy of a small, but, from the defects of the laws, and circumstances of misrule and bad government, an influential and powerful minority.

The Council of the Institute, with ample opportunities of forming an opinion, are convinced that the continuous exertions of the Profession, during this long period, although hitherto failing to secure a consummation of the desired object, have told in favour of Medical Reform with a cumulative effect; and that, at the present moment, a combined effort, on the part of all classes of Medical Reformers, would lead to a speedy settlement of this great question.

I am accordingly instructed to intimate to you, that it is the intention of the Institute, forthwith, to renew its exertions, with increased vigour, for the purpose of obtaining a legislative enactment and a redress of grievances during the next Session of Parliament; and that it is the earnest desire of the Institute, and the object of the above resolution, to devise such a plan of operations as shall meet with that general co-operation among Medical Reformers which is so absolutely necessary.

In accordance with the resolution, and in furtherance of these views, the Council of the National Institute request me to inquire, whether it will be convenient to you to assist at the Conference intended to be convened in London, of all bodies who have evinced an interest in the settlement of Medical affairs.

It is contemplated that the proposed Conference should take into consideration a comprehensive view of all questions upon which a difference of opinion has subsisted between the various sections of the Medical Profession, and in particular,—

1. The practicability of obtaining a redress of the monster grievance inflicted by the Council of the Royal College of Surgeons; and of opening the College to its members, so as to avoid the necessity of a new incorporation; and the most expedient course to be adopted in reference to the position in which the Council of the College at present stands, in relation to the "Principles" of a Medical Reform Bill recently laid before the Profession.

2. The Apothecaries' Society.

3. The proposed new incorporation.

4. The propriety of convening a general meeting of the Profession at large, and the course to be adopted at such meeting.

The Council will feel obliged by an early reply to this application, and if   should signify intention to attend the Conference, due notice will be forwarded of the day and hour of meeting.

I have the honour to be ——

Your most obedient servant,

GEORGE ROSS, Secretary.

To ————

OUR CHOLERA TABLE.

We have again to call the attention of our readers to the extreme importance of collecting observations on Cholera, while this fatal disease is still rife among us. It will be really disgraceful to the science of the day if no light can be thrown on the nature of this complaint, if no rules can be deduced for treatment from the experience of the last six weeks. Observations are wanted, and if every practitioner would endeavour to record his cases, however briefly, some results might at any rate be adduced. The Table we lately published has met with the approbation of numerous practitioners, as affording an easy and useful mode of recording cases. We repeat that we shall be happy to furnish printed forms to all who will apply for them, and, if they are returned to us filled up after the close of the Epidemic, we will take care to analyze them carefully, and, at the same time, to see that justice is done to every observer who has thrown his mite of knowledge into the common treasury. But every one who is disposed to aid in this task must be up and doing, or else the period for exertion will have passed away.

REPORTS OF SOCIETIES.

DEVON AND EXETER PATHOLOGICAL SOCIETY, AT THE MEDICAL LIBRARY OF THE EXETER DISPENSARY.—SEPT. 7, 1849.

Mr. James in the Chair.

The Secretary (Dr. Tuthill Massy) stated that he had sent a circular to each member, calling them together to discuss the nature and treatment of cholera ; and as an introduction to that subject he would read for them what had been done for patients applying at the Dispensary with diarrhœa.

		Diarrhœa.
Tuesday, June the 19th, persons without a recommendation were admitted, and up to Friday, the 22nd, we had		15 cases.
2nd week, ending Friday, the 29th inst.		32 „
3rd „	July the 6th	56 „
4th „	13th	68 „
5th „	20th	105 „
6th „	27th	175 „
7th „	August the 3rd	165 „
8th „	10th	421 „
9th „	17th	529 „
10th „	24th	467 „
11th „	31st	668 „
Total....................		2,801 cases.

The fluctuation in those weeks has been very little, but the increase has been rather steady. The 7th week diminished by 10, and the 10th week by 62.

The following mixture was given, with very few exceptions :—℞ Mist. Camphoræ, ℥viij.; Conf. Aromat, ʒij.; Tinct. Opii. ♏ xl.; Sp. Ammon. C. ʒij.; Tinct. Zinz., ʒiv. dos. ℥i. ter die.

There were very few second applications, so we must conclude that this mixture did great benefit.

The ages of these applicants varied from infancy to old age, the majority being intermediate. Their occupations were those of mechanics, servants, and labourers ; the officers of the corporation of the Poor attended the paupers, so they are not included in this report. Up to the 5th week we had no second application for the mixture ; all appeared to do well, and no bad symptoms arose from checking a diarrhœa of one or two days' standing. The general condition of nearly all were unhealthy, and their habits slovenly and dirty. The description of locality and house from whence they came, were the crowded, dirty courts and alleys, where ten or more are huddled together in each small room, without air or light. Simple diarrhœa prevailed most, few had decided cramps or rice-water purgings. One out of the 467 cases of the tenth week terminated in cholera and died. Two out of 668 of the eleventh week terminated in cholera and died. Twelfth week, up to seven o'clock this evening, 809 cases ; three terminated in cholera and died. Applicants with vomiting alone got the following :—

℞ Ol. ricini, ʒiv. ; tinct. opii., ♏ xxx. aq. menth. pip., ʒiv. ; ft. haust. S. S.

Applicants with cramps alone got the following :—

℞ Æther. Sulph., ʒi. ; sp. ammon. c., ʒi ; tinct. cinnamomi, c., ʒi, ; aquæ, ℥iss. M. ft. haust, stat. sum.

This treatment was pursued with great success ; only a few evils arose from the mixture. One I will mention in a man whom I visited taking this medicine without benefit. He had incessant vomiting and abdominal pains, the cause being an incarcerated inguinal hernia.

If it will not be tresspassing too much on this Society, I shall read a few extracts which I made yesterday, on the many remedies that have been successfully used in the treatment of cholera.

To begin, I may remark, that if we acted under the belief that the premonitory bowel complaint is an effort of nature to expel the poison, as stated by Dr. Stevens, we should not have given an astringent mixture so extensively ; but theory is of very little consequence by the side of practice.

In a leading article of the *Medical Times* of Saturday it is stated, that not more than 6 per cent., out of 1000 cases of cholera, have proved fatal under the saline treatment of Dr. Stevens. Dr. Graves, of Dublin, says, that there is nothing to be compared to acetate of lead ; he orders a scruple of the acetate with two grains of opium into xx. pills, and gives one every half hour until the violence is moderated ; then he prolongs the intervals ; at the same time he directs an enema, with two ounces of mucilage of starch, six to ten grains of lead, and twenty drops of laudanum, to be repeated *pro re natâ* ; this, with sinapisms to the abdomen is his usual treatment. Others say there is nothing like creasote ; one-drop dose repeated every hour, or even at shorter intervals. Some adhere to the old plan of calomel and opium, from 10 to 20 grains, washed down with from 30 to 60 drops of laudanum in a glass of brandy ; those men say, bleed in the early stage. Camphor has got powerful advocates in Germany. Carbonate of ammonia in America. Chloroform has been praised in various places ; so has carbon and carbonic acid. The 1-16th part of a grain of strichnine, washed down with copious draughts of cold water, every two hours, has cured some. Dr. Weatherhead has suggested transfusion, joined with chloroform. Dr. Blackall recommends lime water and milk. Mr. James has proposed yeast. Mr. Tucker cured some cases with Devonshire cider. Dr. Richmond writes as follows of half-pint draughts of port-wine :—No sooner is it swallowed, than the spasms, vomiting, and diarrhœa, instantly cease. You are all familiar with Dr. Ayre's treatment, which proved so successful at Hull. Most, if not all, use frictions. These are at present the most useful remedies.

Mr. James : I think that too much has been imputed to diarrhœa ending in cholera ; for example, we will take the 809 cases of this week—three terminated in cholera—a very small number, indeed.

Mr. Woodman : Would those cases have ended in cholera if they had not been prescribed for at the Dispensary.

Dr. Barham : Yes, they might have.

Mr. James: That question has not been settled; anything that depresses the nervous power may give a predisposition.

Dr. Massy: Can you make a distinction between choleraic diarrhœa and ordinary diarrhœa.

Mr. James: The London Board of Health has done that; for they have put down choleraic diarrhœa in their printed forms.

Mr. Woodman: I think it is out of the question to put down rice-water evacuations as premonitory symptoms.

Mr. Woodman then read a case. The patient was an old man of 70, whom he saw in the collapse stage of cholera; pulse was hardly perceptible; skin and tongue cold; countenance shrunk; voice weak; with cramps, and whey-like evacuations. He gave ℈i. of calomel with forty drops of laudanum, with directions to take nothing but water. Mustard poultices to the stomach, and bottles of hot water to the feet.

Next day rather better; skin warm; tongue cold; no motion. To take five grains of calomel and ten drops of laudanum.

2 p.m.—Has been sick twice since morning. Repeat the calomel and laudanum.

6 p.m.—Re action established; has not yet passed urine. To take three grains of calomel and ten drops of laudanum.

11 p.m.—Going on favourably; complains of cramps in the legs. To take three grains of calomel and ten drops of laudanum.

Sept. 1.—8 a.m. Has had a comfortable night; passed six ounces of urine, the first for thirty hours; has had one whey-like evacuation. Calomel and laudanum as before.

Sept. 2.—Has had a greenish-black motion.

10 a.m. Pulse 90; urine regular.

6 p.m. Has had three dark evacuations.

Ordered, one third gr. morph., h.s.

Sept. 3.—Has had a good night. Continue morph.

Sept. 4.—All symptoms of cholera gone.

This is the fourth case he has successfully treated after this plan.

Dr. Pennell: The first case which occurred in Exeter (Mrs. Sylvester), the hot-air bath was used, and although the surface of the body was heated, yet the hands and feet were cold, and could not be got warm.

Mr. James: Would the hot-air bath raise the temperature of the hands of a dead body?

Dr. Pennell: I think it would.

Mr. James: John Hunter believed we had the power of producing cold as well as heat.

Mr. Amory: The saline treatment, so far as lime-water and milk. I have given it with benefit; but when the evacuations are tinged with bile, I give a little blue pill.

Dr. Barham: As regards the treatment of cholera by bleeding, as far as I saw it, it did not answer.

Mr. James: You will cut short an attack by bleeding. I have bled in the most complete collapse for a violent pain in the stomach.

Mr. Land: Where the attack was excessive he bled to 8 oz.

Mr. Webb: The congestion of the heart is relieved by small bleeding, 3 oz.

Mr. Land: Has bled to 30 or 40 oz. in two or three hours.

Dr. Massy: I have got a return from Mr. Hele of 73 cases, which he bled in 1832, by the order of Dr. Hennis and Mr. Stabback. Many were in a state of collapse. 57 died.

Mr. James: We must take those cases with some caution, as we do not know to what extent blood was taken. Opium is useful; it has the effect of throwing the blood to the surface, as we observe it in the treatment of ulcers.

As the meeting was about to separate, the Secretary wished to know, if he was to understand that the opinion of this meeting, respecting the treatment of cholera, is small bleedings with large doses of calomel in the early stage, and cold water *ad libitum*?

Mr. James believed it the right plan of this meeting to send forth no opinion.

Mr. Hunt would like to know, if the thrilling sensation given to the fingers from touching a cholera patient and its connexion with electricity, was understood?

Mr. Woodman: As it is now late (10 o'clock, p. m.,) I beg to propose a vote of thanks to Mr. James; this was at once seconded and carried unanimously.

	Cases.
11 weeks . .	2,801
12 ditto . .	809
Total .	3,610

6 died. All the others recovered.

REVIEWS.

The Philosophy of Animated Nature; or the Laws and Action of the Nervous System. By G. Calvert Holland, M.D., Physician Extraordinary to the Sheffield General Infirmary. Churchill. London: 1848.

It was our intention, at an earlier period, to have presented to our readers an analysis of the contents of the work before us. Various circumstances, and the difficulty of doing justice to the task within any reasonable space, have hitherto prevented the execution of our purpose.

The generality of the productions which fall weekly under our notice, are comparatively easy to review. Small space will often be found to contain the cream of an Author's views, the rest of his work being more or less a simple illustration of hem. Or the work may be largely the reproduction of generally acknowledged principles or docrines, leaving little room for any lengthened remarks. The work of Dr. Calvert Holland, now under our consideration, belongs to neither of these classes. It is throughout an original investigation, and one of an exceedingly high order, whether the novelty and comprehensiveness of its views be taken into account, the ingenuity with which they are supported, their importance if justly founded, or the correct and elegant literary taste which for the most part pervades its pages.

Dr. Calvert Holland is no stranger to the scientific world. He has been known for nearly a quarter of a century as an indefatigable and enterprising physiologist, and all his works unquestionably show untiring labour and a remarkable independence of thought. The latter quality, whether we consent to his views, or differ with him in opinion, gives to his productions a peculiar charm and value,—for whether we agree with him, or become convinced that he is wrong, he always presents some new phase, and points out new bearings of which we had not dreamed. We speak advisedly, and regret that a departure from established doctrines and opinions has been prejudicial to the attainment of that popularity which works of far less merit and importance have secured to their authors. We do not hesitate to assert, that had Dr. Calvert Holland confined himself to popular literature, and written for the many rather than for the few, he would have taken a high position among the much-read writers of the day. But men, and above all physiologists, do not like to be found fault with, or to have their imperfections exposed, and their doctrines disputed; and he who undertakes the task—and that whether he succeed or fail—may rest assured, that the scientific path he chalks out for himself will be exceedingly rugged, and beset with no ordinary difficulties.

The Medical Profession, however, ought to be grateful to any one who will break up the soil in any new direction—who will show new capabilities and resources of which we had not calculated. Our limited knowledge of the functions of life, of the nature of disease, and of the action of remedies, should, while it teaches us unceasingly to inquire, inculcate a spirit of liberality towards the labours of others. Not that the liberality should seduce us to look mildly on errors, or in any degree to spare them. To castigate them with unrestrained severity, is a duty which we have never shrunk from fearlessly exercising in the columns of the *Medical Times*, and it is one too sacred to be diverted from its legitimate objects.

The peculiarity in the Treatise of Dr. Holland is an attempt to establish the existence of a nervous fluid, and to trace its influence throughout the functions of animal and organic life. This is the first systematic attempt of the kind that has been made. Not that the belief in such a pervading agent is new; nor the doctrine without supporters among the most distinguished physiologists of past and present times. The facts and reasonings which Dr. Calvert Holland brings forward in illustration of his views are full of interest, and apparently fraught with much practical application. They certainly enable him to explain a multitude of phenomena which have hitherto been regarded as inexplicable. If it be altogether on hypothetical grounds, an hypothesis possessing these properties has, in all scientific investigations, a claim to attention. Its value consists in giving a new direction to the mind, and in collecting around the object contemplated a variety of thoughts and suggestions, which gradually originate new ideas and elicit new points of observation, until, at length, a position is attained for the survey of an extended field of phenomena. The application of the hypothesis to the explanation of them is the test of its accuracy. It is the trial of its strength. If found unequal to the demands made upon it, it at once breaks down. But, though it may have been a baseless creation, it is not without its value. The rearing of it, as well as the destruction of it, is accompanied with the exercise of thought, and to this it has been a renovating and an invigorating process.

The readiest mode, and the only one which our space allows, of conveying to our readers an idea of the contents of Dr. Calvert Holland's elaborate Treatise, is to give the titles of the chapters, which are as follows:—

The consideration of these subjects occupies above 500 pages, and the treatment of them necessarily connects the whole together. An analysis of the contents, so as to present what is salient and the most important, is quite beyond our power. We can, however, conscientiously recommend the work, not only to the medical reader as one of considerable interest and value, but to the philosophical inquirer, whatever may be the nature of his pursuits. The originality and the perspicuity of its views, and the literary taste displayed in it, reflect great credit on the talents, research, and acquirements of Dr. Calvert Holland.

CHOLERA CORRESPONDENCE.

LETTER FROM SIR ALEXANDER DOWNIE.

Sir,—I believe it was Abernethy who was wont to say, that when he commenced practice he had thirty-nine remedies for every disease, but that ere long he found thirty-nine diseases for which there was no remedy. This anecdote has been forcibly called to my recollection in reading the medical and *lay* journals since the alarming increase of the prevailing epidemic.

Scarcely a day passes that does not bring to light some new and infallible remedy, and yet these remedies are as different in their effects, pathological,

chemical, and therapeutic, as negative and positive. One practitioner cures with brandy and opium, another with cold water, a third with colchicum, a fourth with calomel, and a fifth with antimony. In short, there is scarcely a remedy in the Pharmacopœia, and there is not a system in medicine, heterodox or orthodox, that has not been vaunted in the treatment of this frightful disease. *Doctors differ*, and, as a natural consequence, the people die. The *Times* of the 12th has an able article on this subject, and has well exposed the cavilling of officials and the difference of opinion existing amongst the Profession, both being as lamentable in themselves as they are destructive to human life.

Now, Sir, although I am neither going to advance a new remedy, nor promulgate an original theory—for the wisest of men has said, and daily experience proves that *there is nothing new under the sun*—I may still be permitted to select from those already before the public, and to state the reasons for my preference.

After long consideration of the subject, and pretty extensive reading of *brochures* and journals, English, French, and German, I am decidedly of opinion, that the system of Dr. Stevens, as ably stated in your Number of the 1st, is by far the most simple, the most judicious, the most scientific; and if properly carried out, will be found the most successful that has yet been brought under the notice of the public. I will now state the reasons which have induced me to arrive at this conclusion. Last year, while residing in Germany, and during the prevalence of cholera in Prussia, I was curious to trace the progress of the disease during its former visitation in Europe; and taking up a map, I was struck with the fact, that it avoided certain localities; for instance, it prevailed at Cassel, the capital of the Electorate of Hesse, and proceeding southwards, it was arrested in its route close to Nawheim, in the same principality. This village having been for centuries famous for its saline springs, from which great quantities of muriate of soda or common salt are annually consumed in the Electorate, and exported into other States, the idea immediately struck me, whether the saline exhalation or the carbonic acid gas evolved from these springs might have had anything to do with the sudden arrest of the hitherto formidable progress of the epidemic. As Pope says,

"Mighty contests rise from trivial things."

My love of inquiry, or, to say the least, my curiosity was excited; I pursued the inquiry, and found that cholera neither then nor now has ever existed in localities containing springs yielding *carbonic acid gas*. In Germany I would instance particularly Carsbad, Töplitz, Franzenbad, Ishel, Marienbad, Kissingen, Homburg, Schwalbach, Kreutznach, and many others. In Russia I have found from inquiry, that the same phenomena has been exhibited; and even in this country, I will venture to say, that places possessing springs yielding water which contains these properties, in a far minor degree, have been entirely free, or, comparatively speaking, nearly so, from the pestilential disease now so prevalent. We have heard of no cholera at Cheltenham, at Leamington, at Tonbridge-wells, and few, if any, cases at Bath. Now, Sir, whether these facts, for facts I affirm them to be, are caused by saline exhalation, or the evolution of carbonic acid gas, I shall leave as an open question to you and your readers; at the same time, they confirm the treatment of the learned philanthropist, whose name has called forth these remarks. Should I have the misfortune to be attacked with cholera, I should certainly request Dr. Stevens' treatment to be employed, and I only hope that some skilful and enterprising chemist in this vast metropolis may be induced to prepare the various prescriptions recommended, so that they may be rendered available, either by some member of the family, or the nearest medical practitioner. The general introduction of the system into public institutions may form a matter for future consideration, either on their part or that of those interested.

As a preventive of the epidemic I would urgently recommend the plan which I pursue, and which, notwithstanding various premonitory symptoms from which I have suffered, has hitherto, happily, proved successful, viz., the plentiful use of aerated waters combined with plain diet. I mean the Fachingen and Seltzers, either as imported, or manufactured by Struve, at Brighton, or Hooper, in Pall-mall,—both equally good. Soda, or one of these waters, with milk, or uncombined, I believe to be the best preventive of cholera.

Excuse this long, though first, communication from one who is a sincere admirer of the increasing talent and research displayed by your Journal.

Your obedient Servant,

ALEXANDER M. DOWNIE, M.D.

55, Grosvenor-Street.

LETTER FROM DR. H. M. HUGHES.

SIR,—I have a very strong objection to appearing as a writer upon questions which are powerfully agitating the public mind; and I have, consequently, felt more than ordinarily disinclined to address you upon the subject of cholera at the present time. But when hundreds have died, and are dying around me, the weight of responsibility appears to me so awful, and the sense of duty is so overpowering, as to compel me to lay aside all private considerations, and to send you the following statement of facts, and the simple expression of opinion which succeeds it, for insertion in your journal at the earliest possible opportunity.

I am far from doubting the authenticity of the facts mentioned by others, however much opposed the result of their experience may be to my own; nor have I any reason to question that they will accord to me an equally honest desire to state the simple truth.

The result, then, of my observation of the effects of the now general method of treating cholera (almost solely by calomel) has been so mournful, so woefully depressing to my mind and spirits, that I feel assured I should fail in my duty to our common humanity if I did not make it known to the Professional public.

It may be premised, that all the cases of cholera which I have seen have been in consultation with other practitioners. I have seen no patients in the hospital suffering from cholera. In a considerable majority of the cases that I have visited, the disease had already far advanced when I saw the patients. But I have been called to cases in which calomel, in frequently repeated small doses, had been commenced very soon, indeed, after the onset of the complaint, and to one in which it was administered only an hour and a half after the first appearance of the disease, and assiduously continued up to a quarter of an hour of the patient's death—an event which, I regret to say, occurred only fourteen hours after he had been *perfectly well*. I have seen a great many cases, in which the frequently repeated small doses of calomel, and some few in which large doses, less frequently administered, had been commenced, and actively persisted in, before I had been called in consultation. With such administration of the mineral, when the patient was already in or approaching to a state of collapse, I have not usually interfered, for I have considered that it was not likely then to be injurious, and I have contented myself with recommending a liberal supply of cold water, or of ice; cold towels to be wrapped around the legs, for the relief of the cramps; sponging the body with tepid or warm water, and then enveloping it in warm blankets, and the use of any mild nourishment that the patient could take, together with a sparing supply of stimulants, preferring others to alcoholic stimulants. I believe that all, or very nearly all of the persons so treated have died. So common, indeed, has been this result, that latterly, when, upon entering the sick room, I have seen some dozens of powders upon the dressing-table, and have found the patient's tongue coated with white powder, like so much chalk or carbonate of lead, I have at length assumed, that his fate was almost certainly sealed. I regret to express my belief that I have *very rarely, indeed*, been mistaken. Such, Sir, has been the result of my own observation, of trusting to calomel in the treatment of cholera. Now, Sir, I beg to mention the experience of others in this vicinity, who had been so kind as to favour me with a report of it under their own immediate inspection. A Medical friend, and near neighbour, was induced to try the plan of small frequently repeated doses of calomel by the recommendation of one of the amiable superintendents of the "Board of Health." They were given, as he believes, constantly and regularly, and, as he truly observes, "There is no art and mystery in their administration, nothing can be easier." They were given in twelve consecutive cases. *All died*, and died, he says, more rapidly than ordinarily, though the patients were of different ages, and in various stages of the complaint, when the treatment was commenced. He says emphatically, "I will never trust to calomel again." Another surgeon significantly observed to me, "Either Dr. A. is mistaken, or the cholera of Hull is a very different complaint from the cholera of Southwark." A gentleman who, in the present epidemic, has, perhaps, seen as much or more of cholera, in this sadly-infected district than any other person, reports: "I have tried calomel in large and repeated doses, in thirty cases of cholera brought into the workhouse in a state of collapse; *not one of them recovered, and as to the small frequently repeated doses, I had tried them before, and found them equally inefficacious.* A practitioner of large experience, both in the present epidemic, and in that of 1832, told me, that he believed that calomel *had no effect in the cure of cholera*; though it might have some influence in mitigating the secondary fever, if the patients ever arrived at that condition. Another gentleman exclaimed to me, "As to calomel, Doctor, you may just as well throw it into the street; I believe that it lies in the stomach like so much white paint!" I find, moreover, that those to whom I apply, and who are still disposed to trust to calomel, have rarely had more than one case, or at most two or three cases, in which calomel, when administered alone, had been successfully employed, though dozens or scores may have died under its use. One gentleman said to me, "I really have seen two cases in which I believe it was the means of curing the disease; the one being a lady very susceptible of the action of mercury; the other a child." "And," I inquired, "in how many instances have you tried it and found it to fail?" To this he replied, perhaps somewhat loosely, "Oh! in a hundred! a hundred to two are certainly great odds!"

Now, Sir, as I have previously stated, I have no reason whatever to doubt the correctness of the assertions made, or the perfect authenticity of the facts reported by others, and for the facts and statements herein recorded I am, myself, responsible. There must, therefore, be a mistake somewhere; either the disease is much more virulent, and therefore less controllable here than in Hull and in other places, in which the small doses of calomel are found to be so wonderfully efficacious, or there must be some other source of fallacy to be discovered. Let, then, those who find calomel to be really efficacious continue its use; but, let me entreat those, who, in this and other vicissitudes, find it almost useless, to attempt some other means of checking the disease, for assuredly nothing can, so far as I have seen, be worse than this. If it does no positive harm, it necessarily entails the undoubted negative evil of preventing other more efficient means being adopted, and of thus losing valuable, most valuable time.

Finally, Sir, I would express my firm conviction of the communicability of cholera from person to person, independently of locality; whether that communicability be termed "contagion," or "contingent infection;" and of the high, the primary importance of stopping the huge drain from the alimentary canal, which drain, whether excreted from the anus, or merely secreted into the intestines, I believe to be the true cause as well of the collapse, as of the diminution or cessation of the secretion of bile and urine. For the purpose of stopping this drain, I have, myself, found nothing so effectual as a large dose of solid opium by the mouth, followed by astringents, ammonia, and opium in a fluid form, together with an enema composed of a small quantity of warm starch, and a full dose of laudanum. If these means are employed early in cholera, (and by cholera, I mean neither diarrhœa, however profuse on the one hand, nor the collapse of cholera on the other,) I believe that they will be frequently found effectual in checking the disease. They are certainly the most effectual means that I have employed, or seen employed. When collapse occurs, they must, of course, be laid aside. Then, indeed, calomel may be given; for then it can do no harm, though I verily believe it can effect no good. Then, so far as I have observed, the free administration of cold drinks, together with a moderate amount of stimulants, in the form of ether, ammonia, chloric ether, or turpentine; sponging the surface of the body, and wrapping it in warm blankets, are almost the only means, or, at any rate, the best means to be adopted, for the possible restoration of the patient. In three cases only, in my own practice, has the "packing in the wet sheet" been adopted; in two unsuccessfully; in the third, which was certainly *not* in a state of collapse, with the happiest results. Sir, I have now done; I have performed what I have conceived to be my duty; I have, at any rate, relieved my own mind. I trust that I may never have occasion again to address you upon the subject of cholera. As I have merely sent to you a statement of facts as they have occurred to myself; have given the reports of others as they have been related to me; and have expressed opinions without, I trust, anything offensive to the most delicately constituted individual, I hope I may be excused the painful task of replying to any objectors to what I have said, who may possibly feel themselves called

upon practically to deny, or theoretically to question the deductions from the communication of

HENRY M. HUGHES, M.D.
Assistant Physician to Guy's Hospital,
14, St. Thomas-street, Sept. 11th, 1849.

LETTER FROM DR. BEAMISH.

SIR,—I trust you will permit me a small space in your valuable periodical, to state the result of *eight cases of malignant Asiatic cholera*, (all but in collapse,) treated by me in the hospital of the County Cork Gaol, on the opiate plan suggested by Dr. Hawthorne, of Liverpool, in his very able and valuable pamphlet on the subject.

Out of the eight, (which occurred within the last fortnight) *seven* are now *perfectly recovered;* and in *only one case* was the narcotic effect of the medicine manifested. A man who had taken gr. xiij. of opium *at a dose*, who never after had a symptom of cholera, and has been for some days *perfectly recovered*. A woman took gr. xij. *at a dose* without *the slightest narcotic effect*; on the contrary, her expression was, "She would be quite well *if she had a little sleep*." This woman had (in addition to all the characteristic symptoms of the disease) slow and laboured breathing, with spasm of the diaphragm; and now enjoys perfect health. The doses in the other cases varied from gr. vj. to gr. x. for cholera cases; and for diarrhœas from gr. vij. to gr. iij. every third or fourth hour.

The one case which proved unfortunate, and to which I gave gr. x., was, I may say, *collapsed*, and though life was prolonged, (judging from the rapid progress of the disease under former modes of treatment,) and suffering mitigated, *without an appearance of narcotism*, still I should not, in future, be induced to employ it *in any case so closely bordering on collapse*.

In none of these seven cases was there a symptom of consecutive fever, which so generally followed other modes of treatment, and in which so many were carried off.

When cholera prevailed in this Institution, previous to this last outbreak, I had fifty-one cases, and lost twenty-four under the *acet. plumbi* and *morphia* treatment, which (having tried all others,) I found the most successful; and though this amount of mortality is by no means as large as it has hitherto been compared with other Institutions; still, judging from the result of those eight cases, I must, of course, regret very much, I had not met with Dr. Hawthorne's valuable views on the subject before now. However, I now lose no time in making the result of these cases public; and beg to add, that I have felt the greatest gratification and pleasure in witnessing their progress; whereas, before, I felt disheartened, and actually dreaded being called to a case, feeling that we really had not arrived at a remedy calculated to arrest its fearful symptoms, and in which (as in other diseases) we might naturally have confidence.

Should I meet with any other cases suitable to this mode of treatment, I shall let you know the result; and, in conclusion, beg to say that its employment requires *experience, discrimination*, and *careful modification*.

I am, sir, your obedient servant.
WM. BEAMISH, M.D.,
Physician County Cork Jail.
Sept. 11, 1849, 7, Camden-place, Cork.

P. S. Having taken accurate notes of the different cases, I shall be happy to afford *more minute* information to any one desirous of obtaining it.

LETTER FROM MR. MANN.

SIR,—Will you allow me through the medium of your columns to draw the attention of my professional friends to a remedy which I have found very useful in the treatment of the prevailing epidemic,—I mean the *liq. chlorinii* of the Edinburgh Pharmacopœia. During the last week I have used it in more than 200 cases, varying from the mild form of diarrhœa to very severe forms of cholera. It has invariably stopped all pain, vomiting, and purging; and I have only lost two cases, both of which were far advanced in the stage of collapse when I was first called in. The dose I give is from ʒi. to ʒiss., with water, every hour until the symptoms are relieved.

As I am not aware that this remedy has been used before in this disease, I trust you will give insertion to this note.

I am, Sir, yours, &c.,
C. W. MANN, M.R.C.S.E., &c.,
Medical Officer to the Northern District of Clerkenwell.

LETTER FROM DR. LINDESAY RICHARDSON.

SIR,—Entering lately on an extensive charge of cholera patients, under Dr. William Robertson of this city, and impressed by the reported beneficial results of Dr. Ayre's treatment of the disease, I deemed it a duty, alike to those entrusting their lives to my care, as to the advocates of this plan, to put it at once in operation. It has been my endeavour to fulfil, to the letter, the plan proposed, and to carry such out I have used every possible exertion. Calomel was given in two grain doses every ten minutes, accompanied by half, one, or two drops of the tincture of opium. I sat for nights at the bedside noting every change, and, when I did not administer it myself, I have every reason to place confidence in those to whom I entrusted it. The results, as seen by the accompanying Table, are far from satisfactory.

We have these eighteen cases of pestilential Asiatic, or malignant, cholera; selected, I confess, not, however, on account of the hopeless or moribund condition of such, but with a view to exclude any of a dubious nature. All must be aware, that during the prevalence of an epidemic like the present, many solicit admission into hospitals labouring under presumptive cholera; some may be cases of cholerine, but such I hold to be as distinct from pestilential cholera as ephemeral fever is from typhus, and as little entitled to a place, when the treatment is under consideration.

The treatment in question, then, was adopted in the first eighteen unequivocal cases which presented themselves.

There are several points worthy of attention in connexion with this Table:—

No.	Age	Sex.	State on Admission. Temperature, Expression, and Voice Natural; Pulse Natural, or a little Increased in Frequency. Serous Dejections.	Temperature reduced, Voice and Expression altered; Pulse small and frequent. Collapsing.	Temperature much reduced, Lividity; Voice Cholerale; Pulse Indistinct at the wrist; very small. Partial Collapse.	Temperature very much reduced; no Pulse at wrist; General Lividity. Complete Collapse.	Passed into Stage of Reaction.	Made water.	Mouth affected.	Lived after Admission into Hospital.	Amount of Calomel Administered.	Cured.	Died.
											Grs.		
1	28	F.				......	...	...	...	24 hours	100	...	1
2*	24	M.				......	1	1	1	7 days	300	...	1
3	28	F.				3	...	...	...	16 hours	120	...	1
4	14	M.				4	...	...	...	15 ,,	120	...	1
5	24	F.			5	......	...	...	...	7 ,,	60	...	1
6	28	F.			6	......	1	1	1	...	228	1	...
7†	27	F.			7	......	1	1	1	9 days	388	...	1
8	40	F.			8	......	...	...	...	24 hours	150	...	1
9	10	M.			9	......	1	...	1	3 days	196	...	1
10	39	M.			10	......	...	...	...	2 ,,	220	...	1
11	40	F.				......	1	...	1	4 ,,	188	...	1
12	40	F.				12	...	...	...	16 hours	168	...	1
13	17	M.			13	......	1	...	...	3 days	161	...	1
14	39	F.			11	......	...	...	...	9 hours	70	...	1
15	11	M.				15	...	...	...	15 ,,	140	...	1
16	39	F.				......	...	...	...	15 ,,	155	...	1
17	10	M.		17		......	1	...	1	4 days	142	...	1
18	38	M.		18		......	...	...	...	10 hours	80	...	1

* This Patient survived the Cholera, but died of Pneumonia.
† This Patient survived the Cholera, but died of Peritonitis, probably connected with recent delivery.

1. I have arranged the cases according to their state on admission. No. 16 will be seen to be one in which the disease was but commencing, and in which, from my experience of other plans of treatment in such cases, might, I have little doubt, have been cut short.

2. Three, in which the affection of the mouth announced the systemic action of the medicine, died.

3. Two who survived cholera died, one of pneumonia the other of peritonitis, (the former, undoubtedly,) developed while the system was under the influence of the medicine.

4. Four, who passed through the stage of re-action, died without having voided urine.

5. In eleven there was not the slightest attempt at re-action.

6. Taking, then, the eighteen, one only was in life at the expiration of this plan of treatment.

After such a result, Sir, it can hardly be wondered that I cease to hope from the two grain doses of calomel.

I am, Sir, your obedient Servant,
W. LINDESAY RICHARDSON, M.D.
Edinburgh Cholera Hospital, Sept. 15, 1849.

LETTER FROM MR. LEIGH.

SIR,—The questions of the College of Physicians regarding cholera, as stated in your Journal of the 15th inst., I agree with you, ought to be put to every practical man in the country. Though, therefore, only a General Practitioner, yet, as having had experience of the cholera in 1832, I would reply to them as follows:—

1st. Quest. In 1832, a bargeman was brought to St. Ives, Huntingdonshire, with cholera, having come from a place where it prevailed, of which disease he died in a few hours. Two women were sent from the workhouse to attend upon him and the family, who washed the deceased's clothes. In a short time they were seized with cholera in the workhouse and died, and the disease spread in the house and in the town, the last person who died being the master of the workhouse himself. There was no cholera in the town before the man was brought home.

2nd Quest. In the great majority of fatal cases, coming under my notice, the people were poor and took little or no heed against deficient ventilation, or damp, or foul air, and were especially regardless of cleanliness in their privies.

3rd Quest. Rather a state of fullness than otherwise, which, in other diseases, would require purging, and often bleeding.

4th Quest. Shooting pains about the body, like rheumatic pains, and diarrhœa.

5th Quest. Frequent colourless evacuations.

6th Quest. I cannot here answer in the affirmative. Innumerable cases occur of diarrhœa in cholera times which are checked, but it is not clear that they have ever been exposed to the vicinity of a true cholera case.

7th Quest. I have all along thought, that the affection of the intestinal mucous membrane in cholera is a secondary, and not a primary affection; and that the disturbance of the system, as in small-pox, begins; the vomiting and purging, therefore, being only efforts of nature to throw off something hurtful, as in poisoning.

8th Quest. One of the women referred to in No. 1 had neither purging nor vomiting after she was seen by me. The people said, she had been to the privy once. She died more quickly than usual. As far as my memory serves me, in four hours or less after I was sent for.

9th Quest. Some re-action and return of colour to the surface, and, indeed, a comparatively natural appearance, but great weakness; but still not enough to account for death in three or four days, which usually came on.

10th Quest. The functions of the kidneys in the consecutive fever appears to be restored; at least, urine is passed, but still the fever goes on fatally.

I ought not to conclude without stating, that I find strongly rubbing the body in a hot salt-water bath the best remedy, or, indeed, rubbing the body all over with common salt.

The collapsed stage has been recovered from under this treatment, and a turpentine glyster has come next in efficacy.

Yours obediently,
JOHN LEIGH.

ON THE REMEDIAL APPLICATION O EXTREME OR BENUMBING COLD.

[To the Editor of the Medical Times.]

SIR,—I rely on your sense of justice for the insertion, in the next Number of your Journal, of the following reply to the Article in the Number of th 15th inst., on my recent proposal of the use of severe cold in the treatment of cholera and other diseases.

I am not surprised at this reception of my effort to mitigate the terrible epidemic which is now raging; and of the announcement of the powerful and extensively applicable remedy which I have discovered in intense, or benumbing cold. Greater medical improvements than this have been, at first, no better received, when discordant with commonly received notions; and I am willing, notwithstanding the particularly gentlemanly and dignified style in which it has been conducted, to defend a valuable remedy, still in its infancy, from this attack which has been made upon it, and which might hurt it in the estimation of the readers of your Journal.

In every communication which I have made on congelation, I have admitted that the medical use of it is opposed to the common opinion on the subject; and I have endeavoured, on most occasions, to explain the fallacy of this opinion. I have shown that the error has arisen from not discriminating between a short and limited congelation, and one of great duration and extent; and that it would be as unreasonable to prohibit bleeding and narcotic draughts in disease, because persons have bled to death from wounds, and been poisoned by swallowing large quantities of opium or prussic acid, as to condemn severe cold because persons exposed to a long continuance of this have been frost-bitten, or have suffered from sphacelus. Every powerful agent, when employed as a remedy, requires limitation and control. I have said that any one can, with very little trouble prove the safety of congelation, by dipping a small bit of ice into salt, and applying it closely to the chin In less than half a minute the part will be frozen and if the frigorific be now removed, the only consequence, besides the anæsthetic and other effects on which the remedial efficacy depends, will be a slight blush, or congestion, of a few hours' duration.

The relation of numerous cases, of various diseases, in my lately-published Treatise on Headache, treated by congelation, at a public institution, and often in presence of other medical men, was surely sufficient proof of its medical efficacy; and the same observation applies, so far, at least, as regards its safety, to the published cases of cholera treated by frigorific draughts.

But the writer of the article says, that "the alleged facts contradict all our past experience and all our received views in relation to living action; and, moreover, objects to the proposal of congelations, "because it is new to the practice of medicine." I must ask, in reply, when we had experience of *short* and *limited* congelation before it was used remedially and anæsthetically? and whether it is a sufficient reason to distrust an experimental fact because it does not accord with preconceived theoretical notions? The objection to this therapeutic agent on account of its novelty is one that could only be received were the science of medicine at admitted perfection; nor is the observation of our critic, that refrigeration must be bad in "so exhausting" a disease as cholera, of a superior description—seeing that the very purpose of its employment is to prevent exhaustion by checking the profuse morbid discharges which occasion this.

Another remarkable observation in these strictures, is, that "the swallowing of ice, and also the enema of iced water, are well established and most beneficial remedies"—but that "a host of facts show that cold spring water as well as ices, in warm weather," have, under certain circumstances, proved pernicious. Where is the opposition here? Of course, nothing can be termed a remedy that is not used under appropriate circumstances, nor can any medicine be given at all times innocuously. Now, if ice has been deemed "a most beneficial remedy," why should not a greater degree of cold than that of melting ice, properly applied, possess greater power? Is there any reason for fixing the degree of cold (as the Reviewer says the therapeutic rule orders) at 32 deg. Fahr., because water happens to freeze at that temperature? "Our medical works," says the Reviewer, "abound in cases of sloughing from the incautious continued application of snow or pounded ice as a refrigerant to external parts." I am not aware that our Medical works abound in any such cases; and what have the few related instances of mischief from incautious continued application of cold to do with the propositions under consideration? The Reviewer terms my proposal, one "to reduce the temperature of the stomach to that of the zero of Fahr." This is not the case. I propose the exhibition of frigorific mixtures, to lower the temperature of the stomach more than ice will reduce it; but I conceive it would be impossible by the means which I recommend to reduce the temperature to nearly the degree mentioned. Whether it could be so reduced with advantage is another question. It would be impossible to lower the temperature of the surface of the body to zero unless the dissolved salt were constantly allowed to escape, in order to maintain the necessary temperature.

But, granting that there was danger in the remedy I have proposed, which the experience of its use in cholera and analogous cases entitles me to deny, is that an insuperable objection to it? Are not the remedies applicable in dangerous circumstances of disease, generally to a certain extent hazardous of themselves? Is it not often a matter of calculation, whether greater risk is incurred by the remedy employed in such dangerous circumstances, or by the disease let alone? In the same Number of the Journal, an account is given of some cases of cholera, treated by phosphorus, in doses twice as large as the quantity of this substance, which, the writer of the paper informs us, on the authority of Mr. Taylor, has destroyed life. Have not, in fact, the majority of the remedies which have been employed in the advanced stage of cholera, been of dangerous character? I consider the safety of severe cold, as a remedy for the hæmorrhagic stage of cholera, to be one of its principal advantages.

I am, Sir, your most obedient servant,

JAS. ARNOTT.

Brighton, September 17, 1849.

[As in duty bound, we give a place to Dr. James rnott's letter, and that although much pressed for space. From this cause, we must refrain this week from commenting upon it, but will take an early opportunity—probably, in our Students' Number—of re-turning to, and re-considering the subject.—ED. *Medical Times.*]

NEW CUSHION FOR THE TREATMENT OF FRACTURES.

[To the Editor of the Medical Times.]

SIR,—Will you allow me to call the attention of he Profession to a cushion for the treatment of fractures, which I have of late used with great success, and which is, so far as I am aware, perfectly *new* in surgery.

The old plan of making cushions with tow, bran, sawdust, &c., appeared to me exceedingly clumsy and awkward, as there was scarcely any chance of procuring *equal pressure* by these means, and the patients were continually complaining of the splints hurting here and there, which, in fact, was not caused by the splint, but by the hard and unequal cushions.

To obviate this, the idea of substituting an *inflated Indian rubber* cushion struck me, as, by it, *equal pressure* on the injured part would be readily and easily procured. I accordingly ordered two cushions of this material, and having, at the time, under my care a lady with a compound fracture of the leg, whose constitution was exceedingly delicate and nervous, I removed the old cushion, and put on the Indian rubber ones. On visiting her next day, her first exclamation was, "Oh, how nice these cushions are; I have had such a sweet sleep!" The leg had been broken a week previously. Lately I have tried them in a case of simple fracture with the same good results. The make of them is very simple. Two pieces of Indian rubber, of a proper length and breadth, joined together in the form of a bag, having, at the superior and upper corner, a *small stopcock* of brass inserted, whereby they can easily be inflated, at pleasure.

One excellent advantage which they possess is, that when the leg becomes swollen and painful, instead of loosening all the bandages or tapes, relief can *instantly* be given, by merely *unscrewing* the cock to let out some of the air in the cushion. This simple process caused no *jarring* in the leg, or any additional pain to the patient.

I hope that the Profession generally will give them a trial, as I am convinced, from experience, of their superiority to all other cushions.

I am, Sir, your obedient servant,

Stokenchurch, Sept. 17, 1849. H. HASTINGS.

POOR-LAW MEDICAL APPOINTMENTS.

[To the Editor of the Medical Times.]

SIR,—In the *Medical Times* of the 18th ultimo, appears a communication headed "Poor-law Medical Appointments," in which the writer, who signs himself "Agricola," proposes a remedy for the numerous grievances under which the Union Medical Officers suffer. Now, a slight perusal of this correspondence will at once prove the incompetency of "Agricola" for the task which he undertakes. In the first place, he begins by an erroneous statement, saying, "it is notorious that the great majority of those officers are young men." Such is not the fact, but, on the contrary, the great bulk of them are men of middle age, and practitioners of several years' standing; and the reason why they hold their Union appointments is for the purpose of preventing strangers making inroads on their private practices. This, I thought, was sufficiently notorious already. I am myself acquainted with the Medical officers of several Unions, and not one of them is a young man. Again, "Agricola" says, "the poor are most inefficiently and negligently attended by these low-priced medical men. Instead of proper medicines, &c., they too frequently substitute mutton, beef, brandy, and gin." What a sapient cure-all is "Agricola." So, when he finds a poor frame-work knitter, emaciated and wasted from want of food, instead of ordering him a draught of porter and some beef, he makes him swallow quinine, bark, iron, &c., &c., and has full faith that his "proper medicine" will clothe his patient's bones with muscle, and give energy to his nerves. Blessings on the dear man! No doubt his neighbours are truly happy in having such a doctor among them, and, no doubt, he would be a useful and pliant tool in the hands of a Board of Guardians. But how does "Agricola" propose to get rid of cheap doctors? As follows:—"Let every Board of Guardians engage, as Medical Officers, all properly qualified medical men, residing in every district, who may be willing to act as such at a given sum per sick person during the year. That the sum for every such sick person shall be at least 2s. 6d., however long or frequent the illness may be during the current year." Now, if that is not cheap doctoring, I know not what is. Two shillings and sixpence for every sick person for one whole year, and most likely all such sick some miles from the doctor's residence. Surely the man cannot be serious. The Union Medical Officers have been trying for the last two years to obtain an alteration, which would average five or six shillings at least per each sick case, and this sum would only be a very moderate compensation indeed for medicine and attendance. The various Benefit Societies, such as "Odd Fellows," "Druids," &c., pay from three to five shillings each person, sick or not sick. "Agricola" also says, "It has always been a matter of regret among the poor that they cannot choose their own doctor." Now, I unhesitatingly say, that there could not be a worse evil attendant on the Poor-law system than allowing the poor to choose their own doctor. Independently of the poor being totally incapable of judging of the qualifications of Medical men, it would be a source of endless discord among the poor, and of inexplicable difficulties to the Guardians; as well might the poor have the appointment of surgeons and physicians to the various hospitals and other charitable institutions throughout the country. The poor, it is well known to Guardians and Medical Officers, are far more difficult to be pleased than their superiors, —no class of persons more ungrateful and dissatisfied, no matter what is done for them. Now, set up a rivalry among Medical men in their attendance on the poor, and, twixt the faithful discharge of their duties, and their anxiety to please the Guardians, you may rest assured that nothing but disappointment and thorough disgust would be the result. Nothing can or will remedy the present evil but to make Medical officers independent of Guardians and poor, by making their appointments permanent, and the remuneration commensurate with their labours.

Sept. 7, 1849. RUSTICUS.

IRISH MEDICAL CHARITIES.

[To the Editor of the Medical Times.]

SIR,—In your able editorial article on the Irish Medical Charities, justice is scarcely done to the Central Board of Health.

I have no hesitation in saying, that the gentlemen composing that Board, by a firm yet courteous administration of their duties, have won the confidence of the majority of the Profession in Ireland. You will say this assertion is contradicted by the memorial condemning the Board, which was signed by twelve hundred Medical Practitioners. Believe me, many who unguardedly signed that document now regret having done so. They are beginning to see that the Board showed sound discretion in keeping the con-

fidence of the Executive, by a proper regard for economy, and retaining the position by which they could afford countenance and protection to their professional brethren. Had the clamour raised against them driven the Board of Health to throw up their office, would the Profession be better off in dealing with Boards of Guardians? Quite the contrary; for in every attempt made by the several Boards of Guardians to reduce the salaries of medical officers, the Commissioners of Health have refused to sanction any such reduction.

I am, Sir, your obedient servant,

J. M.

MEDICAL NEWS.

Apothecaries' Hall.—Names of gentlemen who passed their Examination in the science and practice of medicine, and received Certificates to practise, on Thursday, September 13th, 1849:—John Merriman Fewkes, Barrow-upon-Sour, Leicester; William Robinson, Gateshead, Durham; Robert Wailes, Leeds; Thomas Wade, Hull.

War Office, September 18.—45th Foot—Assist.-Staff Surg. Alexander Gibb, M.D., to be Surg., vice Menzies, appointed to the 6th Foot; Surg. Duncan Menzies, from the 45th Foot, to be Surg., vice Robertson, promoted on the Staff. Hospital Staff—Surg. Peter Robertson, M.D., from the 6th Foot, to be Staff Surg. of the First Class, vice Robert Sillery, M.D., who retires upon half-pay; Acting Assist.-Surg. Charles Walter Poulton to be Assist.-Surg. to the Forces, vice Gibb, promoted in the 45th Foot.

Obituary.—Died, Sept. 9th, of Asiatic cholera, after thirty-three hours' illness, Mr. Richard Simon Edsall, surgeon, of Bermondsey, aged thirty-six. Mr. Edsall practised in Bermondsey for many years, and by his modest, gentlemanly conduct, won the regard and esteem of his professional brethren, whilst his kindness and attention earned for him the affection of his patients. His manners were unassuming, yet he was a sound, able, and successful practitioner; and it will be long before his memory will cease to be cherished, or the loss his death has occasioned be so ably and usefully filled.—Lately, at sea, Harry Goldney, Esq., surgeon, R.N.—On the 10th inst., at the house of his brother, in Bedford street South, Liverpool, aged 33, Emil Lemonius, M.D., of Berlin.—On the 8th instant, at his residence, Wellington-house, Stoke's-croft, Bristol, aged 26, of cholera, Joseph Williams, jun., surgeon.—On the 9th instant, at Delapré-house, Bridport, Robert Graves, M.D.—Recently, at Offenbach-on-the-Main, Dr. Carl Ferdinand Becker.—On the 10th instant, after a protracted illness, aged 58, Professor William Warenne, lecturer on anatomy, physiology, the fine arts, &c., late of Glasgow.—On the 17th inst., at his residence, Chesbunt, Herts, Edward Harrold, Esq., M.R.C.S., in the 81st year of his age.

Boards of Guardians and Medical Officers.—At the last election of Medical Officers for the Cheltenham Union, a majority of the Guardians made an effort to supplant Mr. Hyett, who had for ten years served the parish. They succeeded in finding a candidate to compete with him, and they elected the new and untried man by a majority of two. This gentleman's appointment was not sanctioned by the Poor-law Board, in consequence of insufficient qualification. The Guardians were forced to advertise again, and again they brought forward an opponent to Mr. Hyett, and, as before, elected him. A new Medical Officer was appointed in his place, and Mr. Hyett retired from the duties of the office; but not until he had served the Union for some time after the expiration of his annual appointment. For the visits paid during this interval he sent in a bill of 33*l.* 1s. 6d., charging moderately for his various attendances. The Guardians refused to pay the charge, pronounced it exorbitant, seeking to pay after the ratio of annual salary. Finding the demand persisted in, the clerk of the Guardians was instructed to tender, once for all, the sum of 20*l.* In order to make this tender legal it was offered unconditionally, and it was as unconditionally received and acknowledged. The Board were shortly afterwards informed by Mr. Hyett's solicitor, that if they did not pay the balance, they would be sued for it in the County Court. It was resolved by this body to defend the action, and instructions were given to their clerk to act accordingly. In due course the cause came on for a hearing before James Francillon, Esq., the district judge. The cause was about to proceed, after a discussion as to the power of the Court to decide the matter, when an offer was made by the defendant's attorney, to adjourn the case for a month, to take the opinion of the Board as to whether they would abide by the decision of the Court. This was consented to on the other side, and the adjournment took place accordingly.

The Cholera.—During the past week, we are happy to find that the mortality, from cholera, has decreased, both in town and country, and has been gradually diminishing since the Registrar's Report. A portion of this document we subjoin, and would beg to direct the attention of our readers to the excellent remarks which are made in reference to "preventive medicine." We have, on former occasions, showed how greatly this department of our Profession is neglected by modern physicians; but we hope that, ere long, our licensing Corporations will insist upon this branch of study being cultivated, and that candidates for their diplomas will be examined in their knowledge of hygiene:—

The deaths registered in London in the week ending Saturday, September 15, were 2865; of which 1682 were by cholera; making the aggregate numbers since the commencement of the Epidemic in London, 12,837. The deaths from all causes in the last six consecutive weeks were 1909, 2230, 2456, 2796, 3183, 2865. The numbers last week sensibly decreased.

Thousands of the houses of London have now no pure water; in some places where the cholera is most fatal, the inhabitants are driven to use the polluted waters of tidal sewers for culinary and household purposes. This state of things will exist no longer; the first engineers of the country will be employed to lay the rivers under contribution, and in every house there will be a spring of fresh, filtered living water; for circulating water is the life-blood of a city.

The bodies of the dead, "sown in corruption," will be decently interred in distant grounds, and sacred groves, where their flesh may be resolved into its elements, without tainting the air and destroying their brothers.

The carnage of slaughtered animals will no longer be suffered to infect the air of cities.

The sinks and sewers of London black, bubbling lakes and rivers under ground—extending from the Thames to the house-drains and cesspools, send up damps into dwellings nightly, travel by us in the streets daily, and through a thousand mouths by the way and river-side pour their poisonous incense on the passengers for ever: these emanations, if not drawn through and decomposed by fire, will no longer open under our faces, but ascend with the smoke over the houses; and other matters be carried, solid or in streams of water, over distant fields.

No city, perhaps, ever possessed such an efficient body of medical men as are now practising in London. During this Epidemic they have performed services which in any other field must have won the highest honours; combating the disease night and day in the most pestilential quarters, and that on much more settled principles than the public might be led to suspect from certain discussions at the Medical Societies. And their office has been discharged with so much kindness as to deserve the gratitude of the poor; instead of drawing down on their heads the charges with which the physicians of other countries have often been assailed by the populace. Nearly all the sick have been seen by these practitioners, yet 12,837 persons have already died of cholera in London. How is this? The medical force will be found to have been employed at an immense disadvantage. It is called into action at the wrong end of the malady. Inquiries prove, that while medical advice is generally sought in the characteristic stage, it is seldom obtained in the premonitory stage, when the power of medicine is decisive; and to that earlier and still more important period preceding the premonitory stage, which is prevented as easily as cured, medical practice has had little or nothing to say. Cholera here also only shows in high relief what exists in ordinary circumstances. Medical men rarely, if ever, treat the beginnings of diseases, and are scarcely ever consulted professionally on the preservation of the health of cities or families. The art of preserving health is taught in no regular course of lectures at any of the great schools of medicine in the United Kingdom. Yet the classical sanitary works of Pringle, Lind, Blane, Jackson, Johnson, and Martin, have been framed from observation in the British navy and army. In the science of health there are more exact, demonstrable truths than in the science of disease; and the advantage of "prevention" over "cure" requires no proof. In the Cyropædia of Xenophon, Physicians who only treat the sick are compared to "menders of torn clothes," while the preservation of health is declared a noble art, worthy of Cyrus himself. Vegetius speaks in similar, Jackson in stronger terms, but perhaps unjustly: for if it is godlike to save many from suffering, and to carry them in healthy life up to the natural term of existence, it is a worthy occupation to rescue a few from the arms of death or incurable infirmity. But the preservation and restoration of health are parts of one science; and if, as has been done by London and Liverpool, health officers be appointed in all the districts of the Kingdom, the art of preserving health will be studied by a high order of men well paid by the public; and ultimately with an increase of their remuneration,—the diminution of sickness, the disappearance of epidemics, immense advantage to the public,—the whole Medical Profession may devote themselves to the preservation and development of the vigour of the human faculties, instead of being tied down to the treatment of the sick and dying. "And this," Lord Bacon says, after his great survey of learning, "we hope might redound to a general good, if physicians would but exert themselves, and raise their minds above the sordid considerations of cure; not deriving their honour from the necessities of mankind, but becoming ministers of the Divine power and goodness, both in prolonging and restoring the life of man, especially as this may be effected by safe, commodious, and not illiberal means, though hitherto unattempted. And certainly it would be an earnest of Divine favour if, whilst we are journeying to the land of promise, our garments, those frail bodies of ours, were not greatly to wear out in the wilderness of this world.

Saline Treatment of Cholera.—The *Worcester Herald* of Saturday, the 15th of September, says, "That the value of this mode of treatment does not rest altogether on its services in 1832, for it has been tried as a remedy against the epidemic, although unhappily to a limited extent only, during the present year, in various places, and with success quite as extraordinary as attended its application in 1832. In this city (Worcester) it has been applied, in private practice, by three Medical gentlemen within our own knowledge, with most entire success. And, although in the cholera hospital it was not *permitted* (a) to have a fair trial, yet out of eleven cases in which it was applied, in ten it was quite successful in removing the cholera. In Sligo, Ireland, where the disease was very prevalent, Dr. James Tucker, during the month of August, applied the saline treatment to the patients of a dispensary in that town, of which he is the Medical officer, and he states, 'The trial I have given of it satisfies me, that it is the only proper practice." Dr. Tucker also states, that on inquiry of some of the practitioners appointed to attend the cholera hospital in Sligo, they told him that the saline treatment had been the most successful. Mr. Henry Mudge, surgeon, Bodmin, who has issued a tract entitled, 'Asiatic Cholera, and its Treatment,' says, 'I believe the saline treatment meets with determined opposition, *because it is the best as yet known.* Metaphysicians may explain it; but 'tis an historical fact, that truth has to fight its way in the world inch by inch! This has been the case in the healing art. Sydenham was condemned for treating fevers and small-pox on the cooling plan; Harvey was persecuted for teaching the circulation of the blood; Jenner was anathematised on account of vaccination; and Hope, only twenty years since, was ridiculed for using and praising the stethoscope! 'Tis the old story over again.' We are afraid that there is too much truth in this, strange and pitiful, indeed, as it is; but, as it would seem some of the Profession have determined to scout even a fair trial for so important a matter as a cure for cholera, it becomes the province of the Government to inquire into the merits of the treatment."—(a) [If the Medical gentlemen in charge of the Worcester Cholera Hospital will *not* tell us why the saline treatment of cholera was not "permitted" to have a "fair' trial, per-

haps the Editor of the *Worcester Herald*, or some one of the Worcester Medical men, will do us and the public that favour.—ED. *Med. Times.*]

THE BOARD OF HEALTH PROSECUTIONS.—The *Gazette* of Friday week contains instructions from the Board of Health to their Secretary to prosecute several Metropolitan Boards of Guardians and Managers of burial-grounds for wilful violation and neglect of orders issued by the Board to prevent disease and nuisance.

THE CHOLERA IN DUBLIN.—Within the last two days there has been, not merely an abatement, but an almost total cessation of the disease in and about Dublin.

CHOLERA IN PARIS.—According to the returns of the Sanitary Commission in Paris, it appears that out of the 19,750 deaths which have occurred in that capital from cholera and diarrhœa, the mortality among the troops has been very great, being upwards of 5,000, notwithstanding all the sanitary precautions. This appears to have been greatly in consequence of the hard duty the garrison has to undergo, the want of proper sewerage and ventilation in the barracks, but more particularly the water. The garrison of Paris and environs is from 65,000 to 70,000 men, not including the National Guards.

THE JEWS AND THE CHOLERA.—It is stated in the *Times* that not a single fatal case of cholera has occurred amongst the Jews in Houndsditch, or the close and badly-ventilated vicinity of Petticoat-lane, a neighbourhood not over remarkable for its cleanliness. The exemption probably arises from the direct and intended sanitary character of the Jewish religious observances.

THE SMITHFIELD MARKET NUISANCE.—On Monday afternoon, as the corpse of Mr. Gavin, late of Lavies-street, Islington, was being conveyed for interment in the Bunhill fields burial-ground, when the bearers were in the act of crossing the City-road, near the Angel, a drove of oxen coming from Smithfield, pursued by a dog, rushed upon them; the coffin was hurled off the men's shoulders, and themselves prostrated; the mourners, chiefly females, fled shricking in affright. The corpse, in consequence of this indecent treatment, had to be conveyed to a neighbouring undertaker's, and one of the bearers was so seriously injured as to be unable to proceed.—*Globe*.

THE BRITISH ASSOCIATION.—The first general meeting of the members of this Association was held on Wednesday week, in the Town-hall; the Rev. Professor Robinson in the chair, who delivered an interesting speech in which he adverted to the progress of the Association. The Bishop of Oxford afterwards addressed the meeting. On Thursday morning the various sections met at the Free Grammar School, the Philosophical Institution, and the Queen's Hospital. They were presided over by Mr. Hopkins, F.R.S., Sir W. Harris, the Dean of Ely, Professor Stevelly, Mr. Willis, Dr. Piercey, Professor Apjohn, Professor Phillips, Sir C. Lyell, Sir R. A. Murchison, Sir D. Brewster, Lord Wrottesley, Sir H. F. De la Beche, the Dean of Westminster, and others distinguished in the walks of science.

SECTION A.—MATHEMATICAL AND PHYSICAL SCIENCE.—Mr. Ronald's General Report of proceedings at and in relation to the Kew Observatory during the last year. Mr. Birt: Report on the discussion of the electrical observations at the Kew Observatory. Mr. Grover: On the orbit of the magnetic pole, and on the evidences of a direct attraction of the needle by the two isodynamic poles. Professor Chevallier: On a rainbow seen after actual sunset. Mr. Twining: On teaching perspective by models. Rev. Professor Powell: On luminous meteors.

SECTION B.—CHEMISTRY, &c.—Dr. Scoffern: On the combined use of the basic acetates of lead and sulphurous acid in the colonial manufacture and the refining of sugar. Dr. Wilson: On the presence of fluorine in the waters of the Frith of Clyde, Frith of Forth, and the German Ocean. Mr. Rinman: On phosphorous, as producing cold-short iron. Mr. Ward: On the comparative cost of working various voltaic arrangements.

SECTION C.—GEOLOGY AND PHYSICAL GEOGRAPHY.—Mr. J. B. Jukes: On the general relations of the new red sand-stone, the coal measures, and the Silurian rocks of the South Staffordshire coal-field. Mr. S. H. Blackwell: On the igneous rocks of the South Staffordshire coal field. Mr. S. H. Blackwell: On the faults traversing the South Staffordshire coal-field. Mr. Isaac Lea: On the discovery of reptilian footprints in the old red sandstone near Pottsville, Philadelphia.

SECTION D.—NATURAL HISTORY, INCLUDING PHYSIOLOGY.—Professor Daubeny.—Report on the action of carbonic acid on plants allied to the fossil remains found in the coal formation.

SECTION F.—STATISTICS.—James Haywood, Esq., M.P., F.R.S.—To read a paper of Mr. Paton's on the sanitary condition of Darwen; G. R. Porter, Esq., F.R.S.: On the agricultural statistics of Ireland; and Professor Hancock: On the use to be made of the Ordnance survey to statistics in the registration of judgments and deeds in Ireland.

SECTION G.—MECHANICS.—Mr. Roberts: On a method of supplying the boilers of steam engines with water. Mr. Wishaw: On a chain pipe for subaqueous telegraphs. Mr. Roberts: On an eccentric gauge for wire, sheet metal, &c., also, on means for winding clockwork by the agency of the tide. Mr. Smith: On the superiority of Macadamized roads for the streets of large towns. And Mr. Heaton: On the causes and means of prevention of the oscillation of wheels of locomotive engines.

On Monday, Sir David Brewster was elected President for the ensuing year, and Edinburgh fixed upon for the next meeting of the Association.

The concluding General Meeting of the Members of the Association was held in the Town-hall on Wednesday. At a meeting of the Committee, held in King Edward's School, in the morning, Lord Dunfermline was elected a Vice-President. Colonel Sabine, the General Secretary, proceeded to read a long list of recommendations, by the General Committee, which were duly adopted. Professor Phillips, the Assistant-Secretary, next read a short Report, from which it appeared, that during the present meeting of the Association, there had been present, old life members, 277; old annual, 94; new life members, 11; new annual, 32; associates, 439; ladies, 237; and foreigners who had arrived by railway, 32: total, 1,122 persons; from whom had been received, 951*l.* 5s. 9d. These numbers had only been exceeded twice at any meeting of the Association which had been held since they assembled in Birmingham ten years ago. The President, in an eloquent address, expressed the thanks of the Association to the Mayor and various local authorities of Birmingham. The meeting had been eminently successful. Sir R. I. Murchison moved a vote of thanks to the President, which was seconded by the Mayor of Birmingham, and carried unanimously. The meeting was afterwards addressed by Lord Wrottesley, Dr. Buckland (the Dean of Westminster), and, finally, the meeting of the Association for 1849 was dissolved between five and six o'clock.

MORTALITY TABLE,

(Metropolis.)

For the Week ending Saturday, Sept. 15, 1849.

CAUSES OF DEATH.	Total.	Average of Five Summers.
ALL CAUSES	2865	1008
SPECIFIED CAUSES	2859	1005
Zymotic (or Epidemic, Endemic, and Contagious) Diseases	2159	302
SPORADIC DISEASES:		
Dropsy, Cancer and other Diseases of uncertain or variable seat	40	41
Tubercular Diseases	170	190
Diseases of the brain, Spinal Marrow, Nerves, and Senses	115	119
Diseases of the Heart and Blood vessels	20	29
Diseases of the Lungs, and of the other Organs of Respiration	76	81
Diseases of the Stomach, Liver, and other Organs of Digestion	67	76
Diseases of the Kidneys, &c.	14	11
Childbirth, Diseases of the Uterus, &c.	8	7
Rheumatism, Diseases of the Bones, Joints, &c.	3	7
Diseases of the Skin, Cellular Tissue, &c.	3	2
Malformations	5	3
Premature Birth and Debility	46	22
Atrophy	41	25
Age	42	43
Sudden	17	8
Violence, Privation, Cold, and Intemperance	33	36
Causes not Specified	6	3

The following is the number of Deaths occurring from some of the more important special causes:—

Apoplexy	20	Heart	18	Phthisis	97
Bronchitis ...	22	Hooping-cough	35	Pneumonia ..	40
Cholera.........	1682	Hydrocephalus	39	Scarlatina	24
Childbirth	6	Influenza	1	Small-pox	9
Convulsions...	81	Liver	13	Stomach	6
Diarrhœa	280	Lungs	7	Teething	15
Dropsy		Measles	15	Typhus	66
Erysipelas		Paralysis	15	Uterus	2

BIRTHS AND DEATHS.

	Births.	Deaths.	Deaths over Births.
Males	663	1351	688
Females	639	1514	875
Total......	1302	2865	1572

METEOROLOGY OF THE WEEK.

Day.	Mean of Barometer.	Mean of Thermometer. Dry.	Ditto. Dew Point.	Difference between the Mean Temperature of the day and the same day on an average of 7 years.	General Direction of Wind. A.M.	General Direction of Wind. P.M.	Amount of Horizontal Movement of the Air. Miles.	Rain in Inches.	Electricity.*
Sunday	29·600	57·9	47·5	−1·6	Calm.	S.W.	30	0·00	P. and tension variable.
Monday......	19·253	60·7	55·9	+0·9	S.W.	S.	40	0·00	P. & tension moderate between noon and 3 pm.
Tuesday......	28·998	57·6	49·2	−2·3	S.S.W.	S.W.	60	0·05	P. and tension weak.
Wednesday.	28·914	53·7	47·5	−9·2	S.W.	S.	130	0·44	P. and tension variable.
Thursday ...	29·440	54·6	48·6	−5·2	S.W. & W.	N.W.	205	0·14	P. and tension weak at 9 a.m.
Friday	30·014	53·7	47·4	−3·0	W.S.W.	W.S.W.	30	0·00	P and tension variable from 3 p.m.
Saturday ...	39·032	57·3	48·2	−2·0	W.	S.	15	0·00	P & tension strong between noon & 9 p.m.
Means ...	29·464	56·5	49·9	−3·2	S.	W.	SUM 560	SUM 0·63	

* In this Column, A. stands for Active; N. for Negative; and P. for Positive.

TO CORRESPONDENTS.

"Antiquarian."—We cannot inform our Correspondent where he may obtain an English translation of Hippocrates' Treatise "De Ærlbus, Aquis et Locis." We believe there exists such a translation, which was made about a century ago. There is also a French version.

"M.B."—Ptyalism may be produced by other medicines than mercury. This affection has been known to arise from the use of some of the preparations of copper, arsenic, antimony, and gold. Dr. Hawkins, we believe, mentions a case in which salivation arose from the frequent administration of small doses of castor-oil.

"J. G., Nottingham."—A very useful amalgam for stopping decayed teeth is made by rubbing a small quantity of mercury in a glass mortar, with some precipitate of silver, till they unite and form a paste, which is then pressed through a piece of wash-leather, to remove as much of the mercury as possible. This paste is again rubbed in the mortar prior to its being used. A plug formed with this amalgam hardens in a few hours.

"A Constant Reader."—The active principle of Wourali poison is strychnia.

"Studens."—The density of urine is easily ascertained by the urinometer, originally suggested by Dr. Prout. The scale is divided into sixty degrees, the zero being the point at which it floats in distilled water. The numbers on the scale added to 1000, the assumed specific gravity of water, give the specific gravities at the respective points.

"A Surgeon."—The transparent isinglass plaster is made by spreading a solution of isinglass on the cæcum of an ox prepared expressly for the purpose. This membrane is stretched over the surface of a flat deal board, and kept tight by nails at the edges. When the membrane has dried, the solution of isinglass is brushed over it with a flat varnishing brush. The coating is allowed to dry spontaneously, and then another is applied. Four or five coats are thus successively laid on, changing the direction of the brush each time, and using rather a thinner gelatinous solution for the last coat than for those preceding. When a sufficient thickness of isinglass has been formed, the membrane is turned over on the board, so as to bring the uncoated surface upwards, and a layer coat of drying oil is to be applied on this side.

"Cambrian."—Candidates for the degree of Bachelor of Medicine in the University of London, are required to have been engaged during four years in their professional studies, at one or more of the institutions or schools recognized by the University, to have spent one year at least of the four in one or more of the recognized institutions or schools of the United Kingdom, and to pass two examinations. Practitioners, however, who have been admitted, prior to 1840, members of one of the legally constituted bodies for licensing in medicine or surgery, or who have served previously to 1840 as surgeons or assistant-surgeons in the army, navy, or East India Company's service, are eligible to examination.

"Chemicus."—The Pharmaceutical Society is incorporated by Royal charter. 2. It has for its object the elevation of the standard of education of chemists and druggists.

"A General Practitioner."—The diploma of the Faculty of Physicians and Surgeons of Glasgow confers no legal title to practice medicine in England.

"Gregorius."—The discovery of the spontaneous entrance of air into a wounded vein is comparatively of recent origin. M. Amussat was, we believe, the first who actually demonstrated the fact.

"Scotus."—The interior of an abscess appears to be both a secreting and an absorbing surface.

"J. J. N."—When morphia is contaminated with narcotine it is separated, either by alkalies, such as potash or lime, which dissolve the morphia and leave the narcotine, or by converting the mixture into a hydrochlorate and crystallising. The whole of the narcotine remains in the liquor.

"Ops."—Light is polarized by reflection from many substances, provided the light is incident at a certain angle peculiar to each surface, and which is called the polarizing angle.

"J. R. S" is thanked for his suggestion.

"Mr. Churche's" "Theory of the Origin and Propagation of Cholera" is declined.

"Celsus."—It is a most efficient preparation.

"L. M., Salisbury."—Not without examination.

"Amicus."—Yes, in 1817. Cholera, however, has been supposed to be described in the medical writings of the Hindoos, some of which are of great antiquity.

"D."—The electric fluid appears to act fatally by producing a violent shock to the brain and nervous system.

"Omicron."—1. Every medical practitioner who signs a certificate of lunacy must specify facts upon which his opinion is founded, and whether they are derived from his own observation or from the opinion of others. 2. There must be a separate visit, a separate personal examination, and a separate medical certificate.

"Truth."—1. In a state of health it is not unusual. 2. Morality would suggest the first means. 3. In all probability.

"Mr. Lamplough's" communication can only be inserted as an advertisement.

"R. W."—Calomel has been found useful, and afterwards the remedy mentioned. The head of the worm must be ejected before a cure is accomplished.

"Mr. Jno Cook, Morriston, near Swansea."—The fault does not rest with us, but with the author, from whom we are unable at present to obtain copy.

"X. Y. Z., St. George's Hospital."—We cannot give any information in reference to the Medical Club referred to; neither can we say who was the leading counsel for the prosecution in Rush's trial.

The letter of "Rusticus" was in type last week, but from a press of matter was not inserted. It will be found in the present number.

"M.R.C.S."—The cholera proceeded westward by way of the Persian Gulf along the western shore of the Caspian. The disease advanced up the Danube to Vienna. It appeared in Berlin, 1831, by way of Riga and Stettin. It reached Hamburgh early in October of the same year, and about the 20th cholera appeared in Sunderland, supposed to have been brought there by an infected vessel from Hamburgh.

"Seneca" is informed that his communication with his private note has been transmitted to our Edinburgh correspondent.

"Mr. Cheyne" has our thanks.

"T. H."—(1) The disease is certainly amenable to medical treatment, and any respectable practitioner may be consulted with advantage. Quacks should, by all means, be avoided. (2) We know nothing of the person alluded to.

"A Visitor to Deptford."—Morrison Secundus may be a very important person in his own neighbourhood, but he must attain greater eminence before we can notice him in the columns of the "Medical Times."

The paragraph sent from the Gutta Percha Company must, if inserted, be paid for as an Advertisement.

"Chirurgus," Bristol, is in type.

THE RULES AND REGULATIONS OF EXAMINING MEDICAL BODIES IN ENGLAND, SCOTLAND, AND IRELAND.

ENGLAND.

UNIVERSITY OF OXFORD.

Full term is understood to begin on the first day of the week after the congregation has been held; so that, if the congregation be held on the Monday, the Sunday after is considered the first day of full term.

According to the lately-altered statute respecting medical degrees, a candidate for the degree of Bachelor in Medicine, before he can be admitted to examination for that degree, must have kept four whole years, or sixteen terms, in the University, in like manner as is required by candidates for a degree in arts (a); must have passed the examination for the degree of bachelor in arts; and subsequently to that examination must have studied medicine during three whole years, or twelve terms; and must also have completed seven years, or twenty-eight terms, from his matriculation.

The medical examination takes place only once in the course of the year, namely, in the second week of full Trinity term, commencing usually on the *second Tuesday* after Trinity Sunday. The candidates are examined, principally *vivâ voce*, but partly in writing, in the theory and practice of medicine, in anatomy, physiology, pathology, and materia medica; and also in chemistry and botany, as far as they elucidate the art of medicine. He is required to be conversant with the entire works of Aretæus and Celsus; the aphorisms and epidemics of Hippocrates; and that portion of Galen's writings entitled, "De Usu Partium;" in two, at least, of which authors, the statute directs that the examiners fail not to test the candidate's attainments. He must send, fourteen days before the day of examination, certificates of three years' attendance on the medical practice of a hospital, with the usual lectures.

Certificates are required for two courses of anatomy and physiology, each extending from October till the following April or May; two courses on the theory and practice of medicine, each course of the same extent; one course in materia medica; one course in botany; one course in chemistry, provided the course extend through the usual winter session, otherwise two courses will be required.

A candidate for the degree of doctor in medicine must have pursued the study of medicine during three years after he has graduated as bachelor in medicine, and must give, at least, a fortnight's previous notice of his intention to the professor of medicine, at the same time submitting to approbation a subject for a medical dissertation, which dissertation must be read in the public schools of the University within a few days of taking the degree of M.D., and delivered to the Professor immediately after it has been read. No graduate in medicine from another University can be incorporated at Oxford unless he produce testimonials by which it may clearly appear that he has kept by residence terms equal to those required to be so kept in this University; he has completed all the exercises prescribed by the University from which he migrates for the degree of bachelor of arts; and shall have previously undergone the medical examination above described; and shall have fulfilled all the other conditions of the present statute. The fees for a bachelor of medicine are 23*l.*; for a doctor in medicine, 40*l.*

The University of Oxford is in possession of the Bodleian Library (Librarian, B. Bandinel, D.D.); of the Radclyffe Library (Librarian, Dr. Kidd); of the Ashmolean Museum (Keeper, P. B. Duncan, M.A.); and of the Botanic Gardens, founded by the Earl of Derby in 1632. All these are open to students under certain restrictions.

Radclyffe Travelling Fellows.—Dr. Radclyffe left by will an endowment of 600*l.* per annum, to be paid to two persons, to be chosen out of the University of Oxford, when they are M.A., entered on the study of physic for their maintenance for ten years, and no longer, the half of which time, at least, they are to travel in parts beyond sea, for their better improvement. In case of vacancy by death, or at the expiration of the ten years, a new election is to take place within six months.

UNIVERSITY OF CAMBRIDGE.

There is a course of fifty lectures delivered in this University on the principles of pathology and the practice of physic; 5*l.* 5*s.* first course, afterwards gratis. The Professor of Chemistry delivers thirty lectures, on the general principles of that science, during Lent term, and twenty lectures, principally on organic chemistry, during Easter term. Lectures on experimental philosophy, to illustrate the laws of hydrostatics, pneumatics, and optics, with particular reference to the mathematical theories of light and sound, are delivered in Easter term. About fifty lectures on anatomy are delivered in Michaelmas and Lent terms. The terms of attendance are 5*l.* 5*s.* for each of two courses, afterwards gratis. The pupils have the opportunity of dissecting in private. Botanical lectures are given during the Easter term, with herborising excursions occasionally. Lectures on natural and experimental philosophy are delivered during the Michaelmas term; the subjects being statics, dynamics, and mechanism, with their practical illustrations: first course, 3*l.* 3*s.*; second, 2*l.* 2*s.*; afterwards gratis. The Downing Professor of Physic delivers a course of fifty lectures on some medical subject. A certificate of attendance is required of persons proceeding to the degree of M.B. Lectures are also delivered on crystallography and mineralogy during the Lent term. Addenbrooke's Hospital, which is connected with the University, is recognised by the Colleges of Physicians and Surgeons, and by Apothecaries' Hall. It contains 100 beds, and has a department reserved for cases of midwifery.

A student, before he can become a Bachelor of Physic, must have entered on his sixth year, computed from the date of his first admission at the University, have resided nine terms, and have passed the previous examination.

A Bachelor of Arts may become a Bachelor of Physic after having entered on his sixth year, computed from the date of his first admission at the University, provided that one year at least has intervened between his final determination in arts and his admission to the degree of Bachelor of Physic.

The exercises for this degree are one act and one opponency.

Candidates for the degree of bachelor of physic must, in addition to the examination by the Regius Professor of Physic, be examined by the Professors of Anatomy, Chemistry, and Botany, and by the Downing Professor of Medicine. This examination must not take place before the fifth year after admission. They must have diligently attended the lectures of the Regius Professor of Physic for two terms, and must bring to him certificates of examination by the above professors, and of attendance on their lectures, in case the course of lectures of the Professor of Botany consist of not less than twenty lectures, and the courses of lectures of the Professors of Anatomy and Chemistry, and of the Downing Professor of Medicine, of not less than fifty lectures each. They must also deliver to the Regius Professor of Physic certificates of having been diligently employed in attendance on medical lectures, and the practice of some well-known hospital, for two years, or for as long a time as they have been absent from the University during their undergraduateship. Fee, 20*l.* 16*s.*

A license *ad practicandum in medicina* may be granted to a bachelor of physic in the terms subsequent to that in which he has taken the degree, or to a master of arts of two years' standing.

Candidates for a license *ad practicandum in medicina*, being previously bachelors of physic, are required to produce to the Regius Professor of Physic certificates of their having attended on hospital practice for three years, exclusive of the nine terms which they kept by residence for the degree of bachelor of physic, and of their having attended lectures on the following subjects:—Practice of physic and pathology, anatomy and physiology, chemistry, botany, medical jurisprudence, materia medica and pharmacy, principles of surgery, principles of midwifery, practical anatomy, for two seasons.

Candidates for a license *ad practicandum in medicina*, being previously Masters of Arts, are required to bring satisfactory evidence to the Regius Professor of Physic of their having been employed in the study of physic for five years after they became Bachelors of Arts; and to produce to him certificates of their having attended on hospital practice for three of the said five years, and of their having attended lectures on the subjects before mentioned.

Every candidate for a license *ad practicandum in medicinâ* is required to pass an examination to the satisfaction of the Regius Professor of Physic, the Professor of Anatomy, the Downing Professor of Medicine, and a Doctor of Physic, to be nominated by the Vice-Chancellor, and approved by the Senate, at the first congregation after the 10th of October in each year.

There are two such examinations in every year: one in the week immediately preceding that in which the division of the Michaelmas term falls; the other in the week immediately preceding that in which the division of the Easter term falls.

A candidate for a license *ad practicandum in medicina*, being previously Bachelor of Physic, cannot be examined for the said license until the examination which shall occur next but one after his having passed the examination required for the degree of Bachelor of Physic. Fee, 11*l.* 0*s.*

M.D.—The degree of Doctor of Physic is granted to a Bachelor of Physic of five years, or to a Master of Arts of seven years' standing.

The exercises for this degree are two acts and one opponency.

Every candidate for the degree of Doctor of Physic, who has not previously obtained a license *ad practicandum in medicina*, is required to produce to the Regius Professor of Physic the same certificates, and pass the same examination as are required in the case of candidates for a license *ad practicandum in medicina*. Fee, 11*l.* 12*s.*

The University possesses an Anatomical Museum, to which has been added the valuable collection of the late Dr. Macartney, the Fitzwilliam, Mesman, Mineralogy, and Geological Museums, an extensive Botanic Garden, and the University Library. To all these the students have access.

UNIVERSITY OF LONDON.

Examinations for the Degree of Bachelor of Medicine.—Candidates for the degree of Bachelor of Medicine shall be required—1. To have been engaged during four years in their professional studies at one or more of the Institutions or schools recognised by this University. 2. To have spent one year at least of the four in one or more of the recognised Institutions or schools in the United Kingdom. 3. To pass two examinations.

The first examination shall take place once a year, and commence on the first Monday in August. No candidate shall be admitted to this examination unless he have produced certificates to the following effect:—1. Of having completed his nineteenth year. 2. Of having taken a degree in arts in this University, or in a university the degrees granted by which are recognised by the Senate of this University; or of having passed the matriculation examination. 3. Of having been a student during two years at one or more of the medical Institutions or schools recognised by this University, subsequently to having taken a degree in arts, or passed the matriculation examination. 4. Of having attended a course of lectures on each of four of the subjects in the following list:—Descriptive and Surgical Anatomy, General Anatomy and Physiology, Comparative Anatomy, Pathological Anatomy, Chemistry, Botany, Materia Medica and Pharmacy, General Pathology, General Therapeutics, Forensic [illegible] Midwifery and Diseases peculiar [illegible] Surgery, Medicine. [illegible]

(a) That is, he must be of sixteen terms' standing, and have actually resided in the University twelve terms.

[illegible]. 6. Of having attended a course of Practical Chemistry, comprehending practical exercises in conducting the more important processes of general and pharmaceutical chemistry; in applying tests for discovering the adulteration of articles of the materia medica, and the presence and nature of poisons; and in the examination of mineral waters, animal secretions, urinary deposits, calculi, &c. 7. Of having attended to practical pharmacy during a sufficient length of time to enable him to acquire a practical knowledge in the preparation of medicines.

These certificates must be transmitted to the registrar at least fourteen days before the commencement of the examination. The fee for this examination is 5*l*. No candidate can be admitted to the examination unless he have previously paid this fee to the registrar; and, if he fail to pass the examination, the fee will be returned to him.

The candidates are examined in the following subjects:—Anatomy, Physiology, Chemistry, Structural and Physiological Botany, Materia Medica, and Pharmacy.

The examinations are conducted in the following order:—Morning, 10 to 1: Monday, Anatomy and Physiology, by printed papers; Tuesday, Chemistry, by experiment and printed papers. Afternoon, 3 to 6: Monday, Anatomy and Physiology, by printed papers; Tuesday, Botany, Materia Medica, and Pharmacy, by printed papers. To commence on Friday at 10: Chemistry, Materia Medica, and Pharmacy, by *vivâ voce*, and demonstration from specimens. To commence on Monday, in the following week, at 10: anatomy and physiology, by *vivâ voce* demonstration from preparations, and dissection.

On the Wednesday morning in the week following the commencement of the examination, the Examiners will arrange in two divisions, each in alphabetical order, such of the candidates as have passed; and a pass certificate signed by the Registrar, will be delivered to each candidate. Such candidates only as in the opinion of the Examiners are admissible to the examination for honours shall be placed in the first division.

Examination for Honours.—Any candidate who has been placed in the first division at the first examination may be examined for honours in any or all of the following subjects:—Anatomy and physiology, (candidates may illustrate their answers by sketching the parts they describe,) chemistry, materia medica, and pharmaceutical chemistry.

These examinations take place in the week following the commencement of the first examination. They are conducted by means of printed papers; but the Examiners are not precluded from putting *vivâ voce* questions upon the written answers of the candidates when they appear to require explanation. The examinations for honours are conducted in the following order:—Morning 10 to 1: Thursday, Anatomy and Physiology: Friday, Chemistry. Afternoon, 3 to 6: Thursday, Anatomy and Physiology; Friday, Materia Medica and Pharmaceutical Chemistry.

If, in the opinion of the Examiners, sufficient merit be evinced, the candidate who shall distinguish himself the most in Anatomy and Physiology, the candidate who shall distinguish himself most in Chemistry, and the candidate who shall distinguish himself the most in Materia Medica and Pharmaceutical Chemistry, shall each receive an exhibition of thirty pounds per annum for the next two years. Under the same circumstances, the first and second candidates in each subject shall each receive a gold medal of the value of five pounds.

Second Examination.—The second examination takes place once a year, and commences on the first Monday in November. No candidate can be admitted to this examination within two academical years of the time of his passing the first examination, nor unless he have produced certificates to the following effect:—1. Of having passed the first examination. 2. Of having, subsequently to having passed the first examination, attended a course of lectures on each of two of the subjects comprehended in the foregoing list, and for which the candidate had not presented certificates at the first examination. 3. Of having, subsequently to having passed the first examination, dissected during six months. 4. Of having conducted at least six labours. (Certificates on this subject will be received from any legally qualified practitioner in medicine.) 5. Of having attended the surgical practice of a recognised hospital or hospitals during twelve months, and lectures on clinical surgery. 6. Of having attended the medical practice of a recognised hospital or hospitals during other twelve months, and lectures on clinical medicine. 7. Of having, subsequently to the completion of his attendance on surgical and medical hospital practice, attended to practical medicine, in a recognised hospital, infirmary, or dispensary, during six months. (Certificates on this subject will be received from any legally qualified practitioner having the care of the poor of a parish.) The candidate must also produce a certificate of moral character from a teacher in the last school or institution at which he has studied, as far as the teacher's opportunity of knowledge has extended.

The certificates must be transmitted to the registrar at least fourteen days before the examination begins. The fee for this examination is five pounds.

Candidates are examined in the following subjects:—Physiology, (the papers in Physiology including questions in Comparative Anatomy,) General Pathology, General Therapeutics, Hygiene, Surgery, Medicine, Midwifery, Forensic Medicine. The examination is conducted in the following order:—First week. By printed papers. Morning, 10 to 1: Monday, Physiology; Tuesday, Surgery; Wednesday, Midwifery. Afternoon, 3 to 6; Monday, General Pathology, General Therapeutics, and Hygiene; Tuesday, Medicine; Wednesday, Forensic Medicine. Second Week. By *vivâ voce* interrogations. To commence on Monday morning at 10.

On the Monday morning in the following week the examiners will arrange in two divisions, each in alphabetical order, such of the candidates as have passed; and a certificate under the seal of the University, and signed by the Chancellor, will be delivered to each candidate. Such candidates only as in the opinion of the Examiners are admissible to the examination for honours will be placed in the first division.

Examination for Honours.—Any candidate who has been placed in the first division at the second examination, and has produced a certificate showing that he has not completed his twenty-fifth year, may be examined for honours in any or all of the following subjects:—Physiology and Comparative Anatomy, (candidates may illustrate their answers by sketching the parts they describe,) Surgery, Medicine, Midwifery, Structural, and Physiological Botany.

The examination for honours will take place in the week following the second examination. It will be conducted by means of printed papers; but the examiners are not precluded from putting *vivâ voce* questions upon the written answers of the candidates when they appear to require explanation. The examination is conducted in the following order:—Morning, 10 to 1; Tuesday, Physiology and Comparative Anatomy; Wednesday, Surgery; Thursday, Medicine; Friday, Midwifery; Afternoon, 3 to 6; Tuesday, Physiology and Comparative Anatomy; Wednesday, Surgery; Thursday, Medicine; Friday, Structural and Physiological Botany.

If, in the opinion of the Examiners, sufficient merit be evinced, the candidate who shall distinguish himself the most in Physiology and Comparative Anatomy, the candidate who shall distinguish himself the most in Surgery, and the candidate who shall distinguish himself the most in Medicine, shall each receive an exhibition of 50*l*. per annum for the next two years, with the style of University Medical Scholar. Under the same circumstances, the first and second candidate in each of the preceding subjects shall each receive a gold medal of the value of 5*l*. Under the same circumstances, the candidate who shall distinguish himself the most in midwifery, and the candidate who shall distinguish himself the most in structural and physiological botany, shall each receive a gold medal of the value of 5*l*.

Examination for the Degree of Doctor of Medicine.—The examination for the Degree of Doctor of Medicine takes place once a year, and commences on the fourth Monday in November. No candidate can be admitted to this examination unless he have produced certificates to the following effect:—1. Of having taken the degree of Bachelor of Medicine in this University, or a degree in medicine or in surgery at a university, the degrees granted by which are recognised by the Senate of this University. Those candidates who have not taken the degree in this University shall produce a certificate of having completed their twenty third year. 2. Of having attended, subsequently to having taken one of the above degrees in medicine, (*a*) to clinical or practical medicine during two years in a hospital or medical institution recognised by this University; (*b*) or to clinical or practical medicine during one year in a hospital or medical institution recognised by this University, and of having been engaged during three years in the practice of his profession; (*c*) or, if he have taken the degree of Bachelor of Medicine in this University, of having been engaged during five years in the practice of his profession. (One year of attendance on clinical or practical medicine, or two years of practice, will be dispensed with in the case of those candidates who, at the second examination, have been placed in the first division.) 3. A moral character, signed by two persons of respectability.

These certificates must be transmitted to the registrar at least fourteen days before the examination begins. The fee for the Degree of Bachelor of Medicine is 10*l*.

Candidates are examined in the following subjects:—Elements of Intellectual Philosophy, Logic, and Moral Philosophy; Medicine. The examinations are conducted in the following order:—By printed papers, morning, 10 to 1: Monday, Elements of Intellectual Philosophy, Logic, and Moral Philosophy. (Candidates who have taken a Degree in Arts in this University, or in a University the degrees granted by which are recognised by the Senate of this University, are exempted from this part of the examination. The Degrees in Arts of all universities in the United Kingdom are recognised by the senate for this purpose.) Tuesday, Medicine. Afternoon, 3 to 6; Monday, a Commentary on a case in Medicine, Surgery, or Midwifery, at the option of the candidate. Tuesday, Medicine, by *vivâ voce* interrogation. Friday morning, at 10, examination on the answers to the printed papers, and on the commentaries; and the examination for a certificate of Special Proficiency in Medicine, Surgery, or Midwifery, as determined by the candidate's choice of the case for commentary.

On the Monday morning in the following week the Examiners will arrange in two divisions, each in alphabetical order, such of the candidates as have passed; and a certificate under the seal of the university, and signed by the chancellor, will be delivered to each candidate. Such candidates only as, in the opinion of the Examiners, are admissible to the examination for honours, will be placed in the first division. If, in the opinion of the Examiners, sufficient merit be evinced, the author of the best Commentary on the Case in Medicine, the author of the best Commentary on the Case in Surgery, and the author of the best Commentary on the Case in Midwifery, will each receive a gold medal of the value of 5*l*. Any candidate may present a thesis on a subject of his own choice. If, in the opinion of the Examiners, sufficient merit be evinced, a gold medal, of the value of 10*l*., will be given to the author of the best thesis. The Examiners are not precluded from examining the author on the subject of his thesis.

Examination for Honours.—Any candidate who has been placed in the first division may be examined for honours in any or all of the following subjects:—Surgery, Medicine, Midwifery. The examinations take place in the week following. They are conducted by means of printed papers; but the examiners are not precluded from putting *vivâ voce* questions upon the written answers of the candidates, when they appear to require explanation.

The examinations for honours are conducted

in the following order:—Morning, 10 to 1: Tuesday, Surgery; Wednesday, Medicine; Thursday, Midwifery. Afternoon, 3 to 6: Tuesday, Surgery; Wednesday, Medicine; Thursday, Midwifery.

If, in the opinion of the Examiners, sufficient merit be evinced, the first candidate in each subject will each receive a gold medal of the value of 5*l*.

Institutions and Schools.—No medical institution or school is recognised by the Senate of this University, which does not possess ample means of illustrating the instruction given at it. *Forms of Certificates.*—The teacher must certify for—*Lectures,*—That in the year 18 , the pupil attended . . . his course of instruction on . . . . which commenced on . . . . and terminated at . . . . and which consisted of . . . . . . lectures and . . . examinations. *Practical Anatomy,*—That from . . to . . the pupil dissected . . . . . under his superintendence. *Practical Chemistry,*—That the pupil operated . . . . during his course of Practical chemistry, which consisted of . . . lessons. *Practical Pharmacy,*—That the pupil prepared . . . medicines under his superintendence from . . . . to . . . . *Clinical Instruction in Surgery,*—That the pupil attended . . . . . the surgical practice of this hospital, and the course of lectures on clinical surgery, consisting of . . . . lectures, from to . . . . *Clinical Instruction in Medicine,*—That the pupil attended . . . . the medical practice of this hospital, and the course of lectures on clinical medicine, consisting of . . . . . lectures from . . . . to . . . . *Practical Medicine,*—That the pupil attended to practical medicine at . . . . . and was intrusted with the treatment of patients under . . . . . superintendence, from . . . . . to . . . . (Certificates on this subject will be received from any legally qualified practitioner, having the care of the poor of a parish.) *Practical Midwifery,*—That the pupil conducted . . . . labours under his superintendence. (Any legally-qualified practitioner shall be competent to give this certificate.)

Regulations relating to Students who commenced their Medical Studies in or before January, 1840.

Degree of Bachelor of Medicine.—Candidates, who commenced their professional studies in or before January, 1840, are admitted to the first examination for the degree of Bachelor of Medicine on producing certificates to the following effect:—1. Of having been engaged during two years in their professional studies. 2. Of having attended a course of lectures on each of four of the subjects comprehended in the former list. 3. Of having dissected during nine months. 4. Of having attended to practical pharmacy during a sufficient length of time to enable them to acquire a practical knowledge in the preparation of medicines.

Candidates who commenced their professional studies in or before January, 1840, are admitted to the second examination for the degree of Bachelor of Medicine, on producing certificates to the following effect:—1. Of having been engaged during four years in their professional studies. 2. Of having passed the first examination. 3. Of having attended a course of lectures on each of two of the subjects comprehended in the former list. 4. Of having dissected during twelve months. 5. Of having attended to practical pharmacy during a sufficient length of time to enable the pupil to acquire a practical knowledge in the preparation of medicines. 6. Of having conducted at least six labours. 7. Of having attended the surgical practice of a recognised hospital or hospitals during twelve months. 8. Of having attended the medical practice of a recognised hospital or hospitals during other twelve months. 9. Of having completed the twenty-second year of their age. 10. Of moral character, from a teacher in the last school or institution at which they have studied, as far as the teacher's opportunity of knowledge has extended.

Candidates who have not taken a degree in Arts, or passed the Matriculation Examination in this University, will be required to translate a portion of "Celsus de re Medicâ."

Regulations relating to the Practitioners in Medicine or Surgery desirous of obtaining Degrees in Medicine.

Degree of Bachelor of Medicine.—Candidates are admitted to the two examinations for the degree of Bachelor of Medicine on producing certificates to the following effect:—1. Of having been admitted, prior to the year 1840, members of one of the legally constituted bodies in the United Kingdom for licensing practitioners in medicine or surgery, or of having served, previously to 1840, as surgeons, or assistant surgeons, in Her Majesty's Army, Ordnance, or Navy, or in the service of the Honourable the East India Company. 2. Of having received a part of their education at a recognised institution or school, as required by the charter of the University. 3. Of moral character, signed by two persons of respectability.

Candidates who have not taken a degree in Arts, or passed the matriculation examination in this University, will be required to translate a portion of "Celsus de re Medicâ."

Degree of Doctor of Medicine.—Candidates who have been engaged during five years in the practice of their profession may be admitted to the examination for this degree on producing certificates to the following effect:—1. Of having been engaged during five years in the practice of their profession. 2. Of having taken the degree of Bachelor of Medicine in this University.

Candidates who have not taken a degree in Arts, or passed the matriculation examination in this University, will be required to translate a portion of "Celsus de re Medicâ."

The regulations respecting the transmission of the certificates to the Registrar, the fees, the periods, and the mode of conducting the examinations, and the arrangement of the candidates after examination, are the same for all candidates for the same degree.

ROYAL COLLEGE OF PHYSICIANS, LONDON.

According to the regulations of this College, no one will be admitted a candidate for the licence, unless he shall have attained the age of six-and twenty, and shall present a certificate of good moral conduct. His medical education must comprise Anatomy, the Theory and Practice of Medicine, Forensic Medicine, Chemistry, Materia Medica, Natural History, (principally Botany,) Midwifery, and the principles of Surgery, and must extend over the period of five years. Practical Medicine must be studied for three years in a hospital containing at least 100 beds, and having a complete staff of physicians and surgeons. Those who have studied abroad, in addition to giving proof of five years' Medical education according to the usual course of study, are required to present testimonials of a twelvemonth's medical practice at any hospital in Great Britain, having the qualifications as above.

No one will be admitted as a licentiate (*Permissus*) who is accustomed to use any secret medicine or nostrum in the treatment of disease, unless previously to his first examination he make known to the President and Censors its composition and the manner in which it is employed. Every candidate must undergo three examinations, each conducted at different times, before the President and Censors in *comitia minora.* The first examination comprises Physiology, the second Pathology, and the third Therapeutics. After the first examination, the President may inquire of the candidate where he studied polite literature and the principles of science, and what honours he has obtained, whether in Philosophy, Arts, or Medicine, in order that the answers may be recorded by the Registrar. The candidate will also be examined in Greek works on medicine, to wit, Hippocrates, Galen, or Aretæus. Passages from the Aphorisms of Hippocrates or Galen will be brought forward during the first examination; and during the second and third, passages from Hippocrates, Galen, or Aretæus, which must be translated into Latin, and illustrated with a brief commentary. If the candidate be deficient in his knowledge of Greek, he will be required to translate parts of Celsus or Sydenham, or some other Latin work on medicine, into English. The examinations are conducted in Latin or English at the pleasure of the Censors.

Whenever a candidate has passed the prescribed examinations, and has been approved, he will be proposed at the next *comitium majus* (a meeting of the Fellows at large) to be admitted as a licentiate; and, if the majority present consent, he will be admitted accordingly. If, however, the candidate be rejected, he cannot present himself for re-examination for a twelvemonth.

Before the licentiate is admitted, he is required to plight his faith to the College according to a formula, pronounced by the President before the Fellows assembled in *comitium majus.*

If any one holding the license of the College practise pharmacy afterwards, or engage in merchandise, he is liable to expulsion; and any person practising medicine in London, or within seven miles thereof, without having previously obtained the collegiate licence, is to be admonished by letter to cease his practice until after he has passed the required examinations; and if he continues to practise, despite this admonition, then *legibus regni ch ... erit.*

Persons who have attained their fortieth year, seeking to become licentiates of the College, but whose medical education is not altogether in accordance with the regulations already stated, must present testimonials of professional knowledge and good moral conduct, and, if these are satisfactory, they will be admitted to examination the same as for licentiates in general.

The old regulation restricting the fellowship, as a matter of right, to the graduates of Oxford, Cambridge, and Trinity College, was repealed in the latter part of 1835; and after Easter, 1836, all candidates were declared to be admissible as licentiates only, from which class, when duly qualified, a certain number are to be annually elected Fellows in *comitia majora.* The advantage derived by graduates of the English Universities, and by the Irish graduate who possesses an *ad eundem* degree from an English University, is, that they are eligible a year after they have obtained the licence; the Scotch graduate, being M.A. or B.A., five years later. If the latter does not possess any degree in Arts, his eligibility for the fellowship does not occur until after the lapse of seven years. The Irish graduates who do not possess an *ad eundem* degree are not eligible for two years after they are licensed. The President and Censors propose the candidates for the fellowship, but the *comitia majora* may reject the proposition and choose their nominees. The election is by ballot.

The President of the College is *ex-officio* President of the Vaccine Board, a Trustee of the British and Hunterian Museum, Physician to the Queen, and an elector to the Tancred scholarships. The College has the power of recommending a physician to Christ Church, St. Thomas's, and St. Bartholomew's Hospitals; but, if the recommendation succeed, it is then required to pay an annual stipend of 30*l*. or 40*l* to the Physician. The College also appoints the Professor of Botany to the University of Oxford.

The examinations for the licence are conducted by the President and Censors. The periods at which they take place are Michaelmas, Christmas, Easter, and in the month of June. The new Censors are elected on the 24th of June, when the Harveian oration is delivered. The lectures are delivered in the early part of the year. These are about fifteen delivered: three Gulstonian, three Croonian, and three Lumleian, so called from the names of those who left endowments to the College for the purpose; and six lectures on Materia Medica. The Museum and Library are attached to the Institution, to which the Fellows and, by permission, their friends have access.

The President may each year propose one candidate for the licence, he being an M.D., but not otherwise eligible; and he may also name annually a licentiate of ten years' standing, for the fellowship; the fellows have also the power of proposing a licentiate of seven years' standing, who is thirty-

six years of age, for the fellowship; but this has been done so rarely as to be, in fact, obsolete.

The College fees are 56*l.* 17*s.* for the licence; the fellow pays in addition 1*l.* 1*s.* annually to the collegiate fund.

If any fellow or licentiate can be proved, to the satisfaction of the President and Censors, to have wilfully accused any other fellow or licentiate of professional ignorance, &c., unless it be before the legally constituted judges, he shall be fined 4*l.* for the first offence, and 8*l.* for the second; if he offend a third time, if a fellow, he shall be expelled, and if a licentiate, fined 10*l.* This last fine is to be enforced every time afterwards the licentiate shall so offend. If any fellow or licentiate shall offer his professional assistance to any patient whom he shall know to be under the care of another physician, whether fellow or licentiate, without having been called in to see the patient professionally, he shall be fined 40*s.*

If any fellow be proved to have made any arrangement with a druggist, to share with him the proceeds in his prescriptions, he shall be expelled; if a licentiate have entered into a similar arrangement, he shall be fined 10*l.* every time he shall so offend.

Every physician, whether fellow or licentiate, shall attach to each prescription which he writes, the day of the month, the name of the sick man, and his own initials. When a consultation takes place, it is to be carried on with modesty, not in the presence of the sick; and if any difference of opinion occurs, it is to be stated with prudence and moderation, so that it may not be noticed by the patient or the friends, but, if requisite, should be mentioned by the ordinary medical attendant. Whoever infringes these regulations will be fined 5*l.* by the President and Censors.

No fellow or licentiate may consult, in London or within seven miles thereof, with a physician who does not belong to the College, under a penalty of 5*l.*

All fines are to be paid immediately.

The President and Court of the College have the power of committing individuals contemning their authority to Newgate. This power has been exercised by the Court, but not of late years.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Regulations for Candidates for the Fellowship of the Royal College of Surgeons of England.

1. That every candidate for the fellowship, whether a member of the College or not, shall produce certificates satisfactory to the Court of Examiners

That he is twenty-five years of age.

That he is (if found qualified upon his examination) a fit and proper person to be admitted to the fellowship, and the certificate of which shall be signed by three fellows.

That he has attained a competent knowledge of the Greek, Latin, and French languages, and of the elements of mathematics.

That he has been engaged for six years in the acquirement of Professional knowledge in recognised hospitals or schools of surgery and medicine within the United Kingdom of Great Britain and Ireland, or in foreign countries; and that three of such years, at least, have been passed in one or more of such recognised hospitals or schools in London.

That he has attended the surgical practice of a recognised hospital or hospitals during four years, and the medical practice of a recognised hospital or hospitals for one year.

That he has studied anatomy and physiology by attendance on lectures and demonstrations, and by dissections, during three winter sessions of not less than six months each, at one or more recognised school or schools.

That he has attended lectures on the theory and practice of medicine, and on clinical medicine, and also on the theory and practice of surgery, and on clinical surgery, during two sessions of six months each, at one or more recognised school or schools.

That he has attended one course of lectures on each of the following subjects, viz., chemistry, materia medica, midwifery, medical jurisprudence, and comparative anatomy, at one or more recognised school or schools; and that he has served the office of house-surgeon or dresser in a recognised hospital in the United Kingdom. Every such candidate (except in the case and instances hereinafter provided for to the contrary shall also present for examination Clinical Reports, with observations of six or more surgical cases taken by himself at a recognised hospital or recognised hospitals within the United Kingdom, with sufficient certificates of their authenticity and genuineness, and shall leave such reports at the College.

3. That as to any candidate who shall have taken the degree of bachelor of arts in an English university, and shall produce satisfactory evidence thereof, it shall, instead of the certificate or certificates that he has been engaged for six years in the acquirement of the professional knowledge as before mentioned, be sufficient for him to produce a satisfactory certificate or certificates that he has been engaged for five years in the acquirement of professional knowledge in recognised hospitals and schools of surgery and medicine within the United Kingdom, or in foreign countries, and that three of such years at least have been passed in one or more of the recognised hospitals or schools of London; and that it shall not be necessary for any candidate having so taken the degree of bachelor of arts to produce any certificate of his having acquired a competent knowledge of the Greek, Latin, and French languages, and of the elements of mathematics.

4. That upon the 1st day of January, 1850, or at any earlier period which may be thought proper, the Council shall, under such regulations, and for such time or period as to them shall seem proper (but always subject to removal at the pleasure of the Council), appoint three persons, and being, or not being, and either all, or in part, members of the College, as the Council shall think proper, for the purpose of examining persons intending to become candidates for the fellowship, and required to be examined in the Greek, Latin, and French languages, and in the elements of mathematics; and the said Council, from time to time after the first appointment of such persons for such purpose as aforesaid, and as often as shall be necessary, or to the said Council as shall seem proper in their behalf, shall appoint such other person or persons as to them shall seem fit and proper to succeed or supply the place or places of any person or persons previously appointed for such purpose; and that, from and after the first appointment of any such persons for the purpose of making such examination as aforesaid, no certificate of a candidate having competent knowledge of the Greek, Latin, and French languages, and of the elements of mathematics, shall be received or allowed by the Court of Examiners, except the certificate or certificates of the persons for the time being so appointed as aforesaid.

5. That all members of the College, future as well as present, shall be entitled to be admitted to the examination for the fellowship according to the foregoing bye-laws and ordinances.

6. That any person who shall have been a member of the College on the 14th day of September, 1844, shall, after the expiration of eight years from the date of his diploma, also be entitled to be admitted to the examination for the fellowship upon the production of a certificate, signed by three fellows, that he has been eight years in the practice of the profession of surgery, and that he is a fit and proper person to be admitted a fellow, if upon examination he shall be found qualified.

7. That any person who shall have become a member of the College after the said 14th day of September, 1844, shall, after the expiration of twelve years from the date of the diploma, also be entitled to be admitted to the examination for the fellowship, upon the production of a certificate signed by three fellows, that he has been for twelve years in the practice of the profession of surgery, that he is a fit and proper person to be admitted a fellow, if, upon examination, he shall be found qualified, and also if he have not taken the degree of Bachelor of Arts in an English university, of a certificate or certificates that he has a competent knowledge of the Greek, Latin, and French languages, and of the elements of mathematics.

Examination of Candidates for the Fellowship.

1. The examination for the fellowship shall be held three times in the year, at or within such periods as the Council shall from time to time determine.

2. Each candidate shall be examined on two days, either successive or at such an interval as the Court of Examiners may appoint.

3. The subjects for the first day's examination shall be anatomy and physiology; those of the second, pathology, therapeutics, and surgery.

4. The time allowed for examination each day shall be, from ten o'clock in the forenoon until five o'clock in the afternoon.

5. The examination shall be conducted in the following manner. Each candidate shall, upon going in for examination, have delivered to him a written or printed copy of such questions as shall have been previously determined upon by the Court of Examiners, and to which questions he shall give written answers, and which answers shall be considered by the Court of Examiners.

The Court may, however, if they should think fit, interrogate any candidate on any matters connected with the questions or answers. In the anatomical examination, the candidate shall also perform dissections and operations on the dead body in the presence of the Court of Examiners, or of such members thereof as may be deputed by the Court to superintend the same. Candidates whose qualifications shall be found insufficient shall not be allowed to present themselves a second time until after the expiration of one year from their first examination.

The Court of Examiners shall report in writing to the Council the names of such persons as they shall have found upon examination to be qualified for the fellowship.

*** Members of the College will pay ten guineas besides charges for status, and non members thirty guineas.

Regulations of the Council respecting the Professional Education of Candidates for the Diploma who commence their Studies before the year 1838.

I. Candidates will be required to bring proof— 1. Of being twenty two years of age. 2. Of having been engaged five years in the acquirement of professional knowledge. 3. Of having studied anatomy and physiology, by attendance on lectures and demonstrations, and by dissections, during two anatomical seasons. 4. Of having attended at least two courses of lectures on surgery, delivered in two distinct periods or seasons; each course to comprise not less than sixty lectures. 5. Of having attended lectures on the practice of physic, on chemistry, and on midwifery, during six months, comprising not less than sixty lectures respectively, and on botany and materia medica during three months. 6. Of having attended during twelve months the surgical practice of a recognised hospital in London, Dublin, Edinburgh, Glasgow, or Aberdeen; or for six months in any one of such hospitals, and twelve months in any recognised provincial hospital.

Regulations of the Council respecting the Professional Education of Candidates for the Diploma after the termination of the Session 1839-1840.

I. Candidates will be required to bring proof— 1. Of being not less than twenty-one years of age. 2. Of having been engaged in the acquirement of professional knowledge for not less than four years, three of which shall have been passed in a recognised school or schools of surgery; three months of vacation being allowed in each year, and, in the event of absence or absences from such school or schools during the said term of three years (exclusive of the vacations), the full term being completed subsequent year. 3. Of having studied anatomy and physiology, by attendance on lectures and demonstrations, and by dissections, during two anatomical seasons. 4. Of having attended at least two courses of lectures on surgery, delivered in two

distinct periods or winter sessons of six months, each course to comprise not less than seventy lectures. 5. Of having attended one course of lectures on the practice of physic, and one on chemistry, during six winter months, comprising not less than seventy lectures respectively; one course on materia medica with medical botany, during six months, and one on midwifery during six months, each comprising not less than sixty lectures, and at least twenty-five lectures on medical jurisprudence. Certificates of attendance on these lectures during the summer season will be received, provided they are equally divided over a period of four months. The lectures on medical jurisprudence may be delivered three days in the week. 6. Of having attended, during twenty-one months, the surgical practice of a recognised hospital in London, Dublin, Edinburgh, Glasgow, or Aberdeen; or for twelve months in any one of such hospitals, and twelve months in any recognised provincial hospital. 7. Of having attended the medical practice of a hospital or dispensary during six months.

II. Members and licentiates in surgery of any legally-constituted college of surgeons in the United Kingdom, and graduates in surgery of any University, requiring residence to obtain degrees, will be admitted for examination on producing their diploma, licence, or degree, together with proofs of being twenty-two years of age, and of having been occupied five years in the acquirement of Professional knowledge.

N.B. Certificates will not be recognised from any hospital unless the surgeons thereto, or a majority of them, be members of one of the legally-constituted colleges of surgeons in the United Kingdom, nor from any school of anatomy, physiology, or midwifery, unless the respective teachers be members of some legally-constituted college of physicians or surgeons in the United Kingdom; nor from any school of surgery, unless the respective teachers be members of some legally-constituted college of surgeons in the United Kingdom. Certificates will not be received on more than two branches of science from one and the same lecturer; but anatomy and physiology—demonstrations and dissections, materia medica and botany —will be respectively considered as one branch of science.

Regulations of the Council respecting the Professional Education of Candidates for the Diploma. August 15, 1843.

I. Candidates will be required, in addition to a certificate of being not less than twenty-one years of age, to bring proof—1. Of having been engaged in the acquirement of Professional knowledge for not less than four years; during which period they must have studied practical pharmacy for six months, and have attended one year on the practice of surgery at a recognised hospital or hospitals in the United Kingdom;—three months being allowed for a vacation in each year. (By a resolution of the Council, on the 7th of November, 1839, no provincial hospital will, in future, be recognised by the College which contains fewer than 100 patients, and no metropolitan hospital which contains fewer than 150 patients.) 2. Of having studied anatomy and physiology, by attendance on lectures and demonstrations, and by dissections, during three winter sessions, of not less than six months each. 3. Of having attended at least two courses of lectures on the principles and practice of surgery, delivered in two distinct periods or seasons; and one course on each of the following subjects, viz., the practice of physic, chemistry, and materia medica, and midwifery, with practical instruction.

Certificates will not be received unless the candidate have duly registered his tickets. The other regulations are virtually the same as before.

The Regulations of the Council respecting the professional education of candidates for the diploma of Member of the College, issued 16th of August, 1849, are as follows:—I. Candidates will be required to produce the following certificates, viz.:—1. Of being twenty-one years of age. 2. Of having been engaged during four years in the acquirement of professional knowledge. 3. Of having studied practical pharmacy during six months. 4. Of having attended at a recognised hospital or hospitals in the United Kingdom the practice of physic during one winter (a) and one summer (b) session. 5. Of having attended, during three winter and three summer sessions, the practice of surgery at a recognised hospital or hospitals in the United Kingdom. 6. Of having studied anatomy and physiology, by attendance on lectures and demonstrations, and by dissections during three winter sessions. 7. Of having attended, during two winter sessions, lectures on the principles and practice of surgery. 8. Of having attended, during one summer session, lectures on materia medica, and lectures on midwifery; practical midwifery to be attended at any time after the conclusion of the session. 9. And of having attended one course of lectures on the practice of physic and one course on chemistry. The course of study hereby prescribed is required to be observed by candidates who shall have pursued their studies in hospitals and schools in England. And those candidates who shall have studied in Ireland or Scotland will be admitted to examination upon producing certificates of having attended the required courses of lectures as delivered in the schools of Ireland and Scotland. 2. Members or licentiates of any legally constituted college of surgeons in the United Kingdom, and graduates in surgery of any university requiring residence to obtain degrees, will be admitted for examination on producing their diploma, licence, or degree, together with proof of being twenty-one years of age, and of having been occupied at least four years in the acquirement of professional knowledge. 3. Graduates in Medicine of any legally constituted College or University, requiring residence to obtain degrees, will be admitted for examination, on adducing, together with their diploma or degree, proof of having completed the anatomical and surgical education required by the foregoing regulations, either at the school and hospital of the University where they shall have graduated, or at one or more of the recognized schools and hospitals in the United Kingdom. 4. Candidates who shall have attended at recognized Colonial hospitals and schools, (c) the medical and surgical practice, and the several courses of lectures, with the demonstrations and dissections required by the foregoing regulations, will be admitted for examination upon producing certificates of such attendance, together with certificates of having attended in London, during one winter session, the surgical practice of a recognized hospital, and lectures on anatomy, physiology, &c., with demonstrations and dissections. 5. Certificates will not be recognized from any hospital unless the surgeons thereto be members of one of the legally-constituted Colleges of Surgeons in the United Kingdom; nor from any School of Anatomy and Physiology or Midwifery, unless the teachers in such school be members of some legally-constituted College of Physicians or Surgeons in the United Kingdom; nor from any School of Surgery, unless the teachers in such school be members of one of the legally-constituted Colleges of Surgeons in the United Kingdom. 6. Certificates will not be received on more than one branch of science from one and the same lecturer; but Anatomy and Physiology — Demonstrations and Dissections — will be respectively considered as one branch of science. 7. Certificates will not be received from candidates who have studied in London, unless they shall have registered their tickets at the College, as required by the Regulations, during the last ten days of January, March, and October in each year; nor from Candidates who have studied elsewhere, unless their names shall duly appear in the Registers transmitted during such studies from their respective schools.—By order of the Council.

Aug. 16, 1849. EDMUND BELFOUR, Sec.

N.B. In the certificates of attendance on Hospital Practice and on Lectures, it is required that the dates of commencement and termination be clearly expressed; and no interlineation, erasure, or alteration will be allowed. Blank forms of the required certificates may be obtained on application to the Secretary, to whom they must be delivered, properly filled up, ten days before the Candidate can be admitted to examination; and all such certificates are retained at the College.

These four forms of regulations are in force respecting candidates for the diploma, according to the period when they commenced their studies.

Fee for the diploma (including stamp), 22*l.*; for an articled student (allowed in the diploma fee), 10*l.* 10*s.*; for a certificate of having had the diploma, 5*l.* 5*s.*; for being enfranchised, 10*l.* 10*s.*; a certificate for a surgeon in the Royal Navy, or East India India Company's service (allowed in diploma fee), 5*l.* 5*s.*; for an assistant-surgeon, 2*l.* 2*s.*; for a candidate calling a special court, 5*l.* 5*s.*

Studentships in Anatomy.—Three studentships in human and comparative anatomy have been instituted by the College, to be held by each student for the term of three years, at a salary of one hundred pounds per annum. And with the view of promoting the objects of the College, in the institution of these studentships, the Commander-in-Chief of the Army, the Lords Commissioners of the Admiralty, and the Court of Directors of the East India Company, have placed at the disposal of the President and the Council an Assistant-Surgeoncy of each service, once in three years, for such of the said students as may be considered worthy of the honourable distinctions. 2. Candidates to be members of the College under twenty-six years of age. 3. The Council will determine annually whether one or more of such appointments shall take place during the current year, and will notify its resolution by public advertisement. 4. The appointment is made in the month of June, or as soon after as possible. 5. The students are subject to such duties and restrictions as the Council shall, from time to time, direct; and, in case of misconduct, are liable to dismissal. 6. Candidates are required to transmit to the Secretary, on or before the 1st of May, their applications for the appointment, together with certificates of general good character, and of fair acquirements in general learning, signed by two qualified members of the Medical Profession. 7. A meeting of the Museum Committee will be held as soon after the 1st of May as conveniently may be, at which the applications of the persons offering themselves will be examined, and, if approved, the applicants will be admitted as candidates. 8. The Museum Committee will determine the merits of the several candidates, and report to the Council which, in their opinion, possesses the highest merit. 9. The students are required to attend in the museum daily (Sundays excepted) from ten till four o'clock, and are under the immediate direction of the Museum Committee.

The *Museum* is opened to visiters on Monday, Tuesday, Wednesday, and Thursday, from twelve till four, except during the month of September; on Friday, to gentlemen for studying in it; and on Saturday, from ten till one, to gentlemen desirous of comparing specimens with those in the Museum. The *library* is open to members and students of the College, and visiters having tickets of admission, daily, (Sundays excepted,) from the 1st of October to the 1st of April, from ten till four; and from the 1st of April to the 1st of September, from ten till half-past five.

The Lectures at the College by the Professors

(a) The winter session comprises a period of six months, and, in England, commences on the 1st of October, and terminates on the 31st of March.

(b) The summer session comprises a period of three months, and, in England, commences on the 1st of May, and terminates on the 31st of July. No provincial hospital will be recognized by this College which contains less than 100 patients; and no metropolitan hospital which contains less than 150 patients.

(c) The recognition of Colonial hospitals and schools is governed by the same regulations, with respect to number of patients, to courses of lectures, and to Physicians, Surgeons, and Lecturers, as apply to the recognition of provincial hospitals and schools in England.

are delivered in the spring of the year, the Hunterian oration on the 14th of February.

APOTHECARIES' HALL.

Every candidate for a certificate or qualification to practise as an apothecary, will be required to produce testimonials—

1. Of having served an apprenticeship of not less than five years to an apothecary. No gentleman practising as an apothecary in England or Wales can give his apprentice a legal title to examination, unless he is himself legally qualified to practise as an apothecary, either by having been in practice prior to or on the 1st of August, 1815, or by having received a certificate of his qualification from the Court of Examiners. An apprenticeshi for not less than five years to surgeons practisir as apothecaries in Ireland and Scotland, gives t the apprentice a title to be admitted to examina tion.

2. Of having attained the full age of 21 years As evidence of age, a copy of the baptismal regist will be required in every case where it can possibl be procured.

3. Of good moral conduct. A testimonial o moral character from the gentleman to whom th candidate has been an apprentice, will always b more satisfactory than from any other person.

4. And of having pursued a course of medica study in conformity with the regulations of th Court.

Course of Study.

Every candidate whose attendance on Lecture shall commence on or after the 1st of Octobe 1849, must attend the following Lectures and M dical Practice during not less than three winter ar two summer sessions: each winter session to co sist of not less than six months, and to commenc not sooner than the 1st nor later than the 15th October; and each summer session to extend fron the 1st of May to the 31st of July:—

First Winter Session.—Chemistry; Anatom and Physiology; Anatomical Demonstrations.

First Summer Session.—Materia Medica an Therapeutics; Botany and Vegetable Physiology Midwifery, and Diseases of Women and Children.

Second Winter Session.—Anatomy and Physio logy; Anatomical Demonstrations; Dissections Principles and Practice of Medicine; Medica Practice. (a)

Second Summer Session.—Medical Practice; (a Midwifery, and Diseases of Women and Children Forensic Medicine; Practical Chemistry; (b) Mor bid Anatomy; Clinical Medicine.

Third Winter Session.—Dissections; Principl and Practice of Medicine; Medical Practice; (a Morbid Anatomy and Clinical Medicine.

Practical Midwifery, at any time after the conclusion of the first course of Midwifery Lectures.

The above course of study may be extended over a longer period than three winter and two summer sessions, provided the Lectures and Medical Practice are attended in the order prescribed.

Recognition of Lecturers and Schools.

No Member of the Court of Examiners will be recognised as a lecturer on any branch of medical science.

No lecturer will be recognised by the Court who is not connected with a recognised medical school; or who teaches on more than two branches of medical science; nor until he has produced very satisfactory testimonials of his attainments in the science he purposes to teach, and of his ability as a teacher thereof, from at least two persons of acknowledged talents and distinguished acquirements in the particular branch of science in question; and also given a public course of lectures on the subject he purposes to teach; but if, after such preliminary course, the lecturer shall be recognised, certificates of attendance on that course will be received.

Satisfactory assurance must also be given that the teacher is in possession of the means requisite for the full illustration of his lectures, viz., that he has, if lecturing—on Chemistry, a laboratory and competent apparatus; on materia medica, a museum sufficiently extensive; on botany, a Hortus Siccus, plates or drawings, and recent plants; on midwifery, a museum, and such appointment in a public Institution as may afford the means of practical instruction to the pupils.

Lectures on anatomy, and physiology, and anatomical demonstrations, must be in conformity with the regulations of the Royal College of Surgeons.

The lecturer on the Principles and Practice of Medicine, if he lectures in London, must be a Member of the Royal College of Physicians of London; and if in a provincial town, either a Member of the Royal College of Physicians of London, or a graduated Doctor of Medicine of a British University of four years' standing, unless prior to his graduation he had been for four years a licentiate of this Court.

The lecturer on Materia Medica and Therapeutics must be a Member of the Royal College of Physicians, or a graduated Doctor of Medicine of a British University of four years' standing, or he must have been a Licentiate of this Court for the same period.

The lecturer on Midwifery must be a Member of one of the legally constituted Colleges of Physicians or Surgeons in the United Kingdom of four years' standing, or he must have been a Licentiate of this Court for the same period.

The names of the lecturers recognised by the Court, may be known on application to the Secretary at the Hall of the Society.

The certificates of teachers recognised by the constituted medical authorities in Dublin, Edinburgh, Glasgow, and Aberdeen, as also those of the medical professors in foreign Universities, are received by the Court.

Much inconvenience having arisen from the presentation of schedules signed by lecturers unknown to the Court it is particularly requested that the Registrars of the medical schools will furnish a correct list of their recognised teachers to the Secretary of this Court, at the commencement of every winter session.

Hospitals and Dispensaries.

No Hospital will be recognised by the Court, unless, 1. It contain at least one hundred beds. 2. It be under the care of two or more Physicians, Members of the Royal College of Physicians of London or graduated Doctors of Medicine of a British University. 3. The Physicians give a regular course of Clinical Lectures and instructions in morbid anatomy. 4. The apothecary be legally qualified either by having been in practice prior to the 1st of August, 1815, or by having received a certificate of qualification from this Court. No Dispensary will be recognised by the Court, unless it be situated in some town where there is a recognised Medical School, and be under the care of at least two physicians and an apothecary legally qualified. [M]edical practice will be available, unless it [is a]ttended in conformity with the course of study [pr]escribed for pupils.

Registration of Testimonials.

All Testimonials must be given on a printed [sc]hedule and the *blanks* therein *must* be filled up by [th]e Lecturers themselves. Students will be supplied with schedules at the time of their first registration.

In London, at the Hall.

In Edinburgh, Messrs. M'Lachlan and Stewarts, booksellers.

In Dublin, at Messrs Hodges and Smith's, booksellers.

All Students, in London, are required *personally* to register the several classes for which they have taken tickets; and those only will be considered as complying with the regulations of the Court, whose names and classes in the register correspond with their schedules.

Tickets of admission to Lectures and Medical Practice must be registered in the months of October and May; but no ticket will be registered unless it be dated within *seven* days from the commencement of the course; and certificates of attendance must be registered in the months of April and August. Due notice of the days and hours of such registrations will be given from time to time.

The Court also require Students at the Provincial Medical Schools to register their names in their own hand-writing, with the registrar of each respective school, within the first twenty-one days of October and first fourteen days of May; and to register their certificates of having duly attended Lectures or Medical practice within fourteen days of the completion of such attendance.

The Registrars are requested to furnish the Court of Examiners with a copy of each registration *immediately* after its close, as those students only will be admitted to examination, whose registrations have been *duly* communicated to the Court.

Preliminary Latin Examination.

On the first Thursday in every month, those Students who have completed two Winter Sessions of their Medical studies, will be admitted to their Latin Examination, on leaving their schedules at the Beadle's Office, on or before the Monday preceding. Such Students will be required to attend on the Thursday at half-past three o'clock, and their schedules may be received again on the Saturday following; and those Students who fail to pass this Examination satisfactorily will not be re-admitted till they appear for their General Examination.

Examination.

Every person intending to offer himself for examination must give notice in writing to the Clerk of the Society on or before the Monday previously to the day of examination, and must at the same time deposit all the required testimonials at the office of the Beadle, where attendance is given every day, except Sunday, from ten until four o'clock.

The examination of the Candidate for a certificate of qualification to practise as an apothecary, will be as follows:—

In translating portions of the first four books of "Celsus de Medicinâ," and of the first twenty-three chapters of Gregory's "Conspectus Medicinæ Theoreticæ:

In Physicians' prescriptions, and the "Pharmacopœia Londinensis:"

In Chemistry:

In Materia Medica and Therapeutics:

In Botany:

In Anatomy and Physiology:

In the Principles and Practice of Medicine, including Midwifery and the Diseases of Children.

The examination of the Candidate for a certificate of qualification to act as assistant to an apothecary, in compounding and dispensing medicines, will be as follows:—

In translating Physician's prescriptions, and the "Pharmacopœia Londinensis:

In Pharmacy and Materia Medica.

By the 22nd section of the Act of Parliament, no rejected Candidate for a certificate to practise as an Apothecary, can be re-examined until the expiration of six months from his former examination; and no rejected candidate, as an assistant, until the expiration of three months.

The Court meet in the Hall every Thursday, where Candidates are required to attend at a quarter before four o'clock.

The Act directs the following sums to be paid for certificates:—

For London, and within ten miles thereof, ten guineas.

For all other parts of England and Wales, six guineas.

Persons having paid the latter sum become entitled to practise in London, and within ten miles thereof, by paying four guineas in addition.

For an Assistant's certificate, two guineas.

By order of the Court,

Henry Blatch, Secretary.

Apothecaries' Hall, June 1, 1849.

For information relative to these Regulations,

(a) Medical Practice must be attended during the full term of eighteen months; twelve months at a recognised Hospital, and six months either at a recognised Hospital or Dispensary.

(b) By Practical Chemistry is intended, a *specific* course of instruction in the Laboratory, with an opportunity of personal manipulation in the ordinary processes of Chemistry, and of acquiring a knowledge of the various re-agents for poisons.

Students are referred to the Beadle, at Apothecaries' Hall, every day, (Sunday excepted,) between the hours of ten and four o'clock.

It is expressly ordered by the Court of Examiners, that no gratuity be received by any officer or servant of the Court.

Information on all subjects connected with the "Act for better regulating the Practice of Apothecaries," may be obtained on application to Mr. R. B. Upton, Clerk of the Society, at the Hall, every day, (Sunday excepted,) between the hours of one and three o'clock.

HOSPITALS AND MEDICAL SCHOOLS.

ST. BARTHOLOMEW'S HOSPITAL AND MEDICAL COLLEGE.

The Hospital contains 580 beds; of which 400 are devoted to surgical cases and the diseases of the eye, and 180 to medical cases, and the diseases of women. The number of patients is upwards of 70,000 annually; of which the in-patients amount to nearly 6,000, the out-patients and casualties to 65,000.

Physicians—Dr. Hue, Dr. Roupell, Dr. Burrows. Surgeons—Mr. Lawrence, Mr. Stanley, Mr. Lloyd. Assistant-Physicians—Dr. F. J. Farre, Dr. Jeaffreson, Dr. Black. Assistant Surgeons—Mr. Skey, Mr. Wormald, Mr. Paget.

Fees of Attendance. — Medical Practice — Six months, 10 guineas; nine months, 12 guineas; eighteen months, 15 guineas; an unlimited period, 30 guineas. The clinical clerks to the Physicians are elected from the most diligent students. Surgical Practice—Six months, 15 guineas; twelve months, 20 guineas; three years, 25 guineas; an unlimited period, 30 guineas. Dresserships—Three months, 12*l.* 12s.; six months, 18*l.* 18s.; twelve months, 26*l.* 5s. The entrance to the Medical or Surgical Practice confers the right of attending the courses of clinical lectures by the Physicians or Surgeons.

Clinical lectures are delivered, during the summer session,—on Medicine, by Dr. Roupell, every Wednesday, at 12; and by Dr. Burrows, every Tuesday, at 12: on Surgery, by Mr. Lawrence, every Friday, at half-past 1; by Mr. Stanley and Mr. Lloyd, every Saturday, at half-past 12. The examinations after death are made in the Pathological Theatre, at 12 o'clock. Demonstrator of Morbid Anatomy, Dr. Kirkes, Registrar to the Hospital. Surgical operations, on Saturdays, at 1 o'clock The requisite opportunity of attending cases in Midwifery is provided for the students of the midwifery class.

The Museums of Anatomy, Materia Medica, and Botany, are open daily to the students of the respective classes. A Reading-room is open to all students of the school during the greater part of the day. Subscription, for three years, 10s. The Library contains upwards of 4,000 volumes of the standard works on Medical and other sciences, with the chief Medical journals, which are circulated among the subscribers. Subscription, for twelve months, 1*l.* 1s.; for three years, 1*l.* 10s.; for an unlimited period, 2*l.* 10s.

Collegiate Establishment.—Under the direction of the Treasurer and a Committee of the Governors of the Hospital, houses within the Hospital walls have been fitted up as a College, for the residence of forty students. The establishment is under the superintendence of the resident warden, Mr. Paget; from whom the rules may be obtained.

Scholarships and Prizes.—Examinations are held in the several classes at the end of each winter session, and scholarships, prizes, and honorary distinctions are awarded in May. A scholarship, of the value of 45*l.* a year, and tenable for three years, will be awarded in May, 1850. The subjects of examination will be Anatomy and Physiology. The Bentley Scholarship, of 50*l.* for one year, will be awarded at the same time. The subjects of examination will be Medicine and Surgery. The Wix Prize, founded by the Rev. S. Wix, Vicar and Hospitaller, will, in 1850, be given for the best Essay on the Connexion between Ancient and Modern Literature and the Study of the Medical Sciences. The President's Prize will, in 1850, be given for the best Report of Medical Cases observed in the Hospital during the previous year. The Bentley Prize, founded by James Bentley, Esq., Treasurer of the Hospital, will, in 1850, be given for the best Report of Surgical Cases observed in the Hospital during the previous year. The Collegiate Prize will, also, be given by the Treasurer to the Resident Student of the College who obtains the highest honours in the Class Examinations. Mr. Lloyd will give a Prize for the best Report of Cases of Diseases of the Joints occurring in the Wards under his charge. Prizes of books, or instruments, and honorary certificates, are awarded to the students who give proof of proficiency in the several subjects of study.

Further information, in regard to every department of the College, may be obtained from any of the medical or surgical officers, or lecturers; or on application at the Anatomical Museum, or the Library.

ST. THOMAS'S HOSPITAL.—MEDICAL AND SURGICAL SCHOOL.

Hospital Staff.—Dr. Roots, Consulting Physician; Dr. Barker, Dr. Leeson, Dr. Bennett, Physicians; Mr. Green, Mr. South, Mr. Macmurdo, Surgeons; Dr. Goolden, Dr. Cohen, Assistant Physicians; Mr. Solly, Mr. Le Gros Clark, Mr. Dixon, Assistant Surgeons; Mr. Simon, Lecturer on General and Clinical Pathology; Mr. B. Marsack, Mr. P. H. Bird, House Surgeon. Ophthalmic Department.—Mr. Mackmurdo, Surgeon; Mr. Dixon, Assistant Surgeon. Dr. Waller, Physician Accoucheur; Mr. C. O'Callaghan, Resident Accoucheur.

The out-patients are seen at nine o'clock.—The wards are visited daily, commencing at twelve.

Gentlemen proposing to become Students of St. Thomas's Hospital are expected to produce satisfactory testimonials of moral character and general education; and, with a view of encouraging those acquirements which tend to raise the character of the Profession, the Governors have decided on instituting a voluntary examination in classics, and mathematics. The admission fee to Hospital Practice and all the lectures is 40*l.* for the first year, a similar sum for the second, and 10*l.* for each succeeding year. Special entries to any course of lectures, or to Hospital Practice, may be made as heretofore. The most meritorious of the students will be selected to hold the following appointments in the hospital, without the payment of any additional fee; viz., those of House Surgeon, Physician's Clinical Clerk, Surgeon's Dresser, and Resident Accoucheur. Examinations will be held at the end of the several terms, winter, spring, and summer.

Scholarships and Prizes.—A scholarship of 20*l.* for the student who shall pass the best voluntary classical and mathematical examination, at the commencement of his hospital attendance. Two scholarships for first year's men, each of the value of 20*l.* a year, and tenable for three years, will be awarded annually. The Resident Accoucheur will be provided with rooms and commons in the hospital, free of expense. He will be selected, upon examination, from those Students who, being otherwise qualified, have attended the greatest number of cases. The dressers will be selected according to merit at the periodical examinations. They will be provided with rooms and commons in the hospital, free of expense, during their weeks of attendance. The House Surgeons, two in number, will be selected annually. They will be provided with rooms and commons in the hospital, free of expense. These appointments will be awarded to gentlemen who have most distinguished themselves as Dressers. They must be members of the Royal College of Surgeons, and either licentiates of the Society of Apothecaries, or graduates in Medicine. Prizes and certificates of honour will also be awarded to those who distinguish themselves at the periodical examinations in each subject. Two prizes to Clinical Clerks: The first prize to the value of five guineas, the second three guineas. The President's prizes: The first to the value of ten guineas, to be awarded for attention and good conduct, to the Dresser who shall have reported most accurately the greatest number of surgical cases. The second, to the value of five guineas, to be awarded to a second year's student for the best report of medical cases. Dr. Roots's prize, to the value of ten guineas, will be awarded to the Physician's Clinical Clerk, who shall produce the best report of not fewer than twelve medical cases, which have occurred in the hospital during the preceding twelve months, each case being accompanied with notes illustrative of its pathology, diagnosis, and treatment. One of the Governor's—a prize to the value of five guineas, will be awarded to the Student, who shall write the best report on the ophthalmic cases which shall have been admitted into the hospital. The Treasurer's Annual Prizes.—The first, a gold medal for general proficiency and good conduct, for Students at the completion of their studies; the second to the value of five guineas, for the best Essay read before the Physical Society. The Treasurer's Prize.—One hundred pounds will be awarded in 1851, to the author of the best Essay, including original researches on organic chemistry, in its relation to pathology and practical medicine. The special subject of the Essay is, "On the Chemical and Physiological Action of Mercurial Preparations."

Mr. Whitfield, Resident Medical Officer, is authorised to enter Students, and will give detailed conditions of the various prizes, with any other particulars which may be required.

GUY'S HOSPITAL.

Consulting Physician—Richard Bright, M.D., F.R.S. Physicians—Thomas Addison, M.D.; B. G. Babington, M.D., F.R.S.; G. H. Barlow, M.D. Assistant-Physicians—H. M. Hughes, M.D.; G. Owen Rees, M.D., F.R.S; Golding Bird, M.D., F.R.S. Surgeons—Bransby B. Cooper, Esq., F.R.S.; Edward Cock, Esq.; John Hilton, Esq., F.R.S. Assistant-Surgeons—John Birkett, Esq.; Alfred Poland, Esq; Obstetric Physicians—J. C. W. Lever, M.D.; Henry Oldham, M.D. Surgeon of the Eye Infirmary—John F. France, Esq. Apothecary—James Stocker, Esq.

Gentlemen, who desire to become students, must give satisfactory testimony as to their education and conduct. They are required to pay 40*l.* for the first year, 40*l.* for the second year, and 10*l.* for every succeeding year of attendance. The ticket for the year admits to the lectures, practice, and all the privileges of a student; and for that year only. Dressers, clinical clerks, assistants, and resident obstetric clerks are selected from those students who have attended a second year. Tickets will be withdrawn in the event of neglect or misconduct. Certificates will be given for lectures and practice which have been duly attended. The Christmas recess will commence December 22, and the lectures will be resumed January 3. The winter session will terminate March 31, and the summer course will commence May 1.

The Library, Museum, and Model rooms, are open to the pupils. Mr. Stocker, Apothecary to Guy's Hospital, is authorised to enter the names of students.

UNIVERSITY COLLEGE, LONDON.

Frequent examinations are held in every class. Medals and certificates of honour are given in every class at the end of each term; but those pupils only who have regularly attended the examinations will be admitted to contend for them. At the end of every session the "Longridge" exhibition of 40*l.* is awarded as a prize for general proficiency.

The payments are made by students nominated by proprietors: 5s. additional for every pound, until this extra payment amounts to 4*l.* 10s, are paid by those not nominated. A college fee of 10s. for one class, and 1*l.* for two or more classes, is paid by each student every session; where, however, the course is of short duration, this fee is diminished. The matriculation fee of 2*l.* relieves the student, during the whole course of his study, from the College fee. All fees are paid at the office of the College, where the student receives his tickets, which he afterwards takes to be signed by the Professor. The office is open from 9 o'clock till 4, except on Saturdays, when it closes at 2.

Several of the Professors receive students to reside with them; and in the office of the College there is kept a register of parties unconnected with the College who receive boarders in their families;

among these are several medical gentlemen. The Register will afford information as to terms and other particulars. At University hall, an Institution in the neighbourhood of the College, collegiate residence under the superintendence of a Principal is provided for a limited number of students.

UNIVERSITY COLLEGE HOSPITAL.

Physicians.—Dr. Walshe, Dr. Parkes, Dr. ——; Dr. Murphy, Obstetric Physician; Dr. Garrod, Dr. ——, Assistant-Physicians.

Surgeons.—Mr. Arnott, Mr. Quain, Mr. Mortoft; Mr. Erichson, Mr. Marshall, Assistant Surgeons; Mr. Durance George, Dental Surgeon.

To students who have already entered, in the medical faculty of the College, to three classes, of which the courses are of six months' duration—(two classes, in which the courses are of three months' duration, being considered equivalent to one of six months)—also to pupils who produce certificates of having attended a course of lectures of a recognised school of medicine, and during one year the practice of a recognised hospital: For perpetual admission to the medical and surgical practice, 26*l.* 5s. For one year to the Physicians' and Surgeons' practice, 21*l.*; Physicians' or Surgeons' practice separately, 15*l.* 15s.. For six months to the Physicians' and Surgeons' practice, 15*l.* 15s.; Physicians' or Surgeons' practice separately 10*l.* 10s.

To pupils other than as above specified:—For perpetual admission to the medical and surgical practice, 36*l.* 15s. For one year to the Physicians' and Surgeons' practice, 30*l.*; Physicians' or Surgeon's practice separately, 22*l.* For six months to the Physicians' and Surgeons' practice, 22*l.*; Physicians' or Surgeons' practice separately, 15*l.* The above fees to be paid at the office of the College. These fees are devoted to the maintenance of the Hospital, the Physicians and Surgeons having relinquished their proportion of them for its benefit. Every pupil pays, in addition to the fees, 10s. Apothecary's, and 5s. office fee.

Physicians's Assistants, House Surgeons, Midwifery Assistants, Physicians' Clerks, and Surgeons' Dressers are selected from pupils, being students of the College and of unexceptionable moral character, without additional payments. In case of the qualifications of the candidates for the respective offices being equal, preference will be given to those who have obtained the highest honours in the medical classes of the College. The Physicians' Assistants and House Surgeons reside in the Hospital, paying for their board. The Physicians' and Surgeons' visits are made daily at 1 and 2 o'clock. Each of the three Physicians visits his patients three times a week.

Obstetric Department.—Dr. Murphy attends three times a week to see patients affected with uterine diseases, and children; and on alternate days to receive applications from women who wish to be attended in their confinement.

Out-patients' Department.—Out-patients are seen daily by the Assistant Physicians, Surgeons, and Assistant-Surgeons.

KING'S COLLEGE.—Session 1849 50.

Medical Department—The academical year in this department is divided into two sessions; the winter session, which will begin on the 1st of October, and terminate on the 31st of March; and the summer session, which will begin on the 1st of May, and end on the 31st of July. Students are of two kinds, matriculated and occasional. Matriculated students are those who receive their entire medical education at King's College. They wear the College cap and gown, and enjoy certain privileges enumerated in the Calendar. Occasional students comprehend those who attend only the lectures of particular Professors.

KING'S COLLEGE HOSPITAL.

The Hospital is situate in the immediate neighbourhood of the College, and accommodates 120 in-patients.

Consulting Physicians—Thomas Watson, M.D.; Robert Ferguson, M.D. Physicians—George Budd, M.D. F.R.S.; R. B. Todd, M.D. F.R.S. Physician for Diseases of Women and Children, and Physician Accoucheur—Arthur Farre, M.D., F.R.S. Physician to Out-patients.—W. A. Guy, M.B. Assistant Physician—George Johnson, M.D. Surgeons—W. Fergusson, F.R.S.; Richard Partridge, F.R.S. Assistant-Surgeons—William Bowman, F.R.S.; Henry Lee, F.R.C.S. Surgeon-Dentist —S. Cartwright, jun.

Dr. Arthur Farre attends at half-past eleven on Tuesday, Thursday, and Saturday.

Clinical lectures are delivered, after the visit, on alternate Tuesdays, by Dr. Todd; Fridays, by Dr. Budd; Mondays, by Mr. Partridge; Thursdays, by Mr. Fergusson.

The Physician's Assistant and Clinical Clerks, the House Surgeon and Dressers, are selected by examination from among those matriculated students of the College who are pupils of the Hospital. —No fee is paid for any of these appointments.

The expense of the course of study required by the regulations of the College of Surgeons and the Society of Apothecaries is 96*l.* 12s. This payment may be made either in one sum upon matriculation, or in two equal sums; the one at the commencement of the winter session, October 1st, and the other after the Christmas vacation, not later than the 21st January. The following fees must be paid at the time of matriculation:—Matriculation fee, 1*l.* 1s.; library fee, 1*l.* 1s.; subscription to the scholarship fund, 1*l.* 1s.; cap and gown, 1*l.* 10s.; calendar, 2s.: total, 4*l.* 15s. The fees for admission to the laboratory class of analytical chemistry are, for one month, 4*l.* 4s.; for three months, 10*l.* 10s.; for six months, 18*l.* 18s.; for nine months, 26*l.* 5s. Fee for the Medical Tutor, to resident students, 2*l.* 2s. for each academical year; to non-resident students, 3*l.* 3s. All resident students are required to attend the Medical Tutor during their first two years.

Hospital Fees.—Perpetual admission to the Medical and Surgical Practice:—For Matriculated Students of King's College, 31*l.* 10s. For Pupils who are not Matriculated Students, 36*l.* 15s. Medical Practice:—Three months, 6*l.* 6s.; six months, 10*l.* 10s.; twelve months or eighteen months, 15*l.* 15s.; perpetual 21*l.* Surgical Practice:—Three months, 10*l.* 10s.; six months, 15*l.* 15s.; twelve months or twenty-one months, 21*l.*; Perpetual, 26*l.* 5s. Registration-fee, to be paid to the Secretary at King's College Hospital, 10s. 6d.

Endowments and Prizes in favour of Medical Students.—1. Scholarships, given annually.—One of 40*l.* for students of the third and fourth year, tenable for three years; one of 30*l.*, for students of the second year, tenable for two years; and three of 20*l.*, for students of the first year, tenable for two years. 2. Leathes Prizes.—The interest of 300*l.* bequeathed by the late Mr. Leathes, is applied in the purchase of a Bible and Prayer-book, as yearly prizes, to two medical students, who shall be found most worthy of the same, for their proficiency in religious knowledge, and their general conduct. 3. Warneford Prizes.—The interest of 1000*l.* given by the Rev. Dr. Warneford, is expended in the purchase of two medals, and of books to be given annually to two medical students who shall most distinguish themselves at an examination consisting of questions in—1. The Holy Scriptures; 2. Butler's Analogy; 3. Two branches of medical science taught in the College, to be selected by the candidates. The first prize is of the value of 25*l.*, and the second of 15*l.* Matriculated students only can become candidates for these prizes and scholarships. The examination for the Warneford and Leathes prizes takes place in October, and for the scholarships after the winter session. Candidates for the Warneford and Leathes prizes must bring certificates of regular attendance at the College chapel; and candidates for the Warneford prizes must also bring certificates of attendance at the lectures of the Principal and Chaplain. 4. Daniell Scholarship.—This scholarship has been founded in honour of the late Professor Daniell, and is open to every student of the College. It is of the annual of 20*l.*, tenable for two years; and is given every second year for the best series of researches in chemistry made in the laboratory of the College since the last award. 5. Prizes and certificates of honour are awarded in the different classes, according to fixed regulations. 6. Clinical prizes and certificates of honour are likewise given for proficiency in subjects taught at the hospital. Associates of King's College.—This distinction is conferred at the recommendation of the Professors, on such Students as, having completed with distinction four years of study, are approved by the Principal. Degrees.—Students of this College are admitted to degrees in Arts and Medicine, and for the honours, exhibitions, and scholarships conferred by the Senate of the University of London. By a regulation of the University of Edinburgh, three out of the four years of study required by that University for its degree of M.D., may be passed at King's College. Residence of Students.—Students may reside in the College; and some of the Professors receive pupils into their houses. The parents or guardians of students coming to King's College are earnestly requested to communicate with the Dean of the medical department before placing them in lodgings. Dining-hall.—There is a dining-hall in the College for the accommodation of the resident students, and for such other students as may desire to avail themselves of it. Further particulars may be obtained from the King's College Calendar; or by application to Professor Guy, the Dean of the medical department, or to J. W. Cunningham, Esq., Secretary of King's College, London. The next winter session will commence on Monday, the 1st of October next, with an introductory lecture by Professor Arthur Farre, at two o'clock precisely.

THE QUEEN'S COLLEGE, BIRMINGHAM.

Department of Medicine and Surgery.

The system of study pursued at this College constitutes a complete course of collegiate, medical, and surgical education. The lectures qualify for examination for the diplomas of the Royal College of Surgeons and the Society of Apothecaries, without any residence elsewhere. Students who have passed through the junior department of this College, and have there in due course matriculated at the University of London, may present themselves for their B A. or first M.B. examination at the end of their first year in the medical department. At the end of the second year, matriculated students who deferred their examination in the University of London, have again the opportunity of presenting themselves. At the end of the third year, students are eligible for M.A. and M.B. degrees in the University of London, for the diploma of the Royal College of Surgeons of England, and the license of the Society of Apothecaries. The academical year is divided into two sessions: the winter session, which commences on the 1st of October, and terminates in April; and the summer session, which begins on the 1st of May, and ends July 31st. Connected with the College are Museums of Human, Comparative, and Pathological Anatomy, containing upwards of 2,000 preparations, to which the student will be admitted daily; and, under certain regulations and restrictions, he will also have access to an extensive Museum, illustrative of zoology, geology, and the other departments of natural history. The Library contains upwards of 2,000 volumes; and the quarterly, monthly, and weekly periodicals of medicine and surgery and general science lie upon the table. The college expenses, including commons, chamber rent, and servants' wages, &c. &c., will not exceed 48*l.* for the two sessions. The students breakfast in hall at seven, a.m., have refreshment at twelve, dine at five, p.m., have coffee at eight, p.m. The payments to be made by three instalments, viz., 18*l.* on the 1st of October, 18*l.* on the 1st of January, and 12*l.* on the 1st of May. Every student will be expected to provide himself with chamber linen, a large and small silver fork, and a table spoon and tea spoon.

College Regulations.—1. Every student shall annually subscribe his name in the obligation book, and shall sign a declaration that be will regularly and diligently pursue his studies. 2. Students to attend prayers daily, and on Sunday Divine service in the Chapel, and also the Warden's theological lectures and

examinations. 3. Students to have furnished room with commons in college. 4. Students to wear the academical dress whenever they appear in hall, or at lectures, and in the College Chapel. 5. The names of students who come into college after ten o'clock p.m., to be entered in a book, to be kept by the porter, with the hour at which they come in. 6. No student to be absent from college any night during his residence without the express permission of the senior tutor. 7. In case of infringement of the rules and regulations of the College, the Senior Tutor shall have power to enforce the same, 1st, by restraint of hours, —2nd, by literary exercises, called impositions,—3rd, by suspension. In any case in which suspension is necessary, the Senior Tutor shall inform the several Professors thereof, in order that the attendance of such student at lectures be discontinued, and their certificates disallowed. In any case in which the Senior Tutor shall consider rustication necessary, he shall confer with the Warden, and the Warden and Senior Tutor together may rusticate for any period not exceeding two months. Whenever the Senior Tutor considers dismissal or expulsion necessary, he is to report the same in writing to the Council, together with a detailed statement of the circumstances. The Council, after deliberation thereupon, shall communicate its decision to the Senior Tutor, and such decision is final.

A book will be kept by each Professor specifying the dates of attendance of each student. Testimonials as to such attendance and as to professional acquirements will be given by the Professors in such printed forms only as have been agreed upon by them. A *vivâ voce* examination will be held in each class every week or fortnight, at the discretion of the Professor, and on the last day of each course there will be a general written examination in every class, at which all the students must attend. The Professors' medals and certificates of honour will be awarded to those students who, in such written examinations, shall display the greatest proficiency. During the last week of the winter and summer sessions, the schedules of the Royal College of Surgeons and Society of Apothecaries on Lectures and hospital practice are to be left with the Registrar; the schedules, duly signed by the respective Professors, will afterwards be delivered to students, by the Curator, on the last day of each term. Certificates will not be granted to those students who neglect to comply with this regulation.

Such members of the College as hold a diploma in medicine or surgery, or who are graduates in medicine, law, or arts, or such members of the late Birmingham Royal School of Medicine and Surgery as the Council may determine, are eligible to be "fellows." The fellows have power to vote at all special and general meetings, have free admission to the medical and general library, to the museums, and to the lectures of the Professors; and likewise are privileged to dine in the College-hall, on the payment of a specified sum, to be fixed by the Council. Four resident scholarships have been founded by the Rev. Dr. Warneford, of 10*l*. each, to be held for two years; to be conferred upon the students who have resided in the College at least twelve months, who have been distinguished for their diligence and good conduct, who have been regular in their attendance on Divine service, and who have availed themselves especially of the religious instruction of the Warden. The interest of 1,000*l*. to be applied for the institution of two prizes, either in equal or unequal amounts, as may seem to the Trustees most likely to advance the great ends in view, which are, to combine religious with scientific studies and pursuits, to make medical and surgical students good Christians, as well as able Practitioners in medicine and surgery. The compositions written for these prizes to be of a religious as well as scientific nature; the subject to be taken out of any branch of anatomical, physiological, or pathological science, and to be handled in a practical or professional manner, and according to those evidences of facts and phenomena which anatomy, physiology, and pathology, so abundantly supply; but always and especially with a view to exemplify and set forth, by instance and example, the wisdom, power, and goodness of God, as revealed and declared in Holy Writ. Two gold medals are offered by the Governors of the College for regularity of attendance at lectures and examinations, and good conduct during two years; to be certified by the senior tutor and professors. Silver medals are annually given by each professor, on a public examination, of proficiency in the respective departments of medical science, at the conclusion of the summer session. Certificate of Honour.—Students who may, after examination, be placed by the Professor next to the medallist, will receive a certificate of honour, signed by the Principal, Vice-Principal, and Dean of the Faculty. University Scholarships &c.—Students of the college are admitted to examination for the scholarships, exhibitions, gold medals, and books, offered by the Senate of the University of London. Students are also eligible to contend for the commission in the army, offered to the Senate of the University by the Army Medical Department once in every two years, for one of its most distinguished bachelors of medicine. Studentships, &c., of the Royal College of Surgeons.—Students are eligible to offer themselves for the studentships of the Royal College of Surgeons of England, of the value of 100*l*. per annum for three years, (three of which have been established), for the best proficients in human and comparative anatomy. The General commanding the Army in Chief, the Lords Commissioners of the Admiralty, and the Court of Directors, have (at the instance of the Director-General of the Medical Department of the Army, the Physician General of the Royal Navy, and the Chairman of the Honourable East India Company) placed the appointment of an assistant surgeon at the disposal of the President and Council of the Royal College of Surgeons once in three years, for such students as may be considered worthy of these honourable distinctions. These appointments are also open to the students of the College. Non-resident students are admissible, and may reside with their parents or guardians, or with a relation or friend selected by their parents or guardians, and approved by the Council. The Senior Tutor and Dean of the Faculty are authorized to inquire into the habits and general conduct of such out-students at their respective residences, and to report to the Council thereupon, at the end of every term. Out-students, if members of the Church of England, will be required to attend Divine service in the College Chapel every Sunday, unless the parent or guardian of the student requests the attendance of such student at his own place of worship. If the student be attached to any other communion, he will be expected to attend at the place of worship belonging thereto every Sunday. Non-resident students will be allowed to dine in the College hall, either regularly or occasionally, on giving such notice, and paying such sum, as shall be fixed by the Council.

QUEEN'S HOSPITAL, BATH-ROW.

Fees for Admission to the Hospital Practice, and to the Clinical Lectures.—Students may compound for three years, on the payment of 21*l*.; one year's attendance, 10*l*. 10*s*. The respective offices of House Surgeons, Physicians' Clerks, and Surgeons' Dressers, shall be filled up by the medical officers from the students of the Queen's Hospital, after public examination, and the production of testimonials of good conduct. Clinical lectures will be delivered weekly, by the Professors, in the theatre. A gold medal is offered by Professor Dr. Davies for the best reported medical cases occurring in his practice at the Queen's Hospital. A gold medal is offered by Professor Cox, for the best reported surgical cases occurring in his practice at the Queen's Hospital. All fees are paid to the Deputy Treasurer, Professor Davies, M.D., 25, Newhall-street, from 9 o'clock until 10 in the morning, where the student may obtain his ticket. The registry of tickets to the lectures and hospital practice is open from October 1st to October 21st, and from May 1st to May 14th, every year. Applications to be made and the tickets brought to the Registrar, W. Sands Cox, Esq., F.R.S., at the College, at the hour specified. It is the earnest request of the Council, that parents or guardians of medical students coming to Queen's College, should make early application to W. Sands Cox, Esq., 24, Temple-row, as only a limited number of rooms have been provided.

LONDON HOSPITAL MEDICAL AND SURGICAL SCHOOL, MILE END. 1849-50.

General fee for attendance on the medical and surgical practice and all the lectures, qualifying for the examinations at the London University, Royal College of Surgeons, and Apothecaries' Hall, 84 guineas, payable in two instalments of 42 guineas each, at the commencement of the two first sessions of attendance. General fee to the lectures alone 50*l*. Students can make special entries for lectures or practice as heretofore.

Hospital Practice.—The London Hospital contains 320 beds, of which 100 are allotted to Medical, and 220 to surgical cases. Physicians—Dr. Cobb, Dr. Frampton, Dr. Little. Assistant-Physicians—Dr. Pereira, Dr. Fraser, Dr. Davies. Surgeons—Mr. Luke, Mr. Adams, Mr. Curling. Assistant-Surgeons—Mr. Critchett, Mr. N. Ward. One of the Physicians and one of the Surgeons attend daily; the latter at one o'clock; and one of the Assistant-Physicians and one of the Assistant-Surgeons daily at twelve. Casualties are received at all hours in the accident-room by the house-surgeons and dressers. Surgical operations, except in cases of emergency, are performed on Thursdays at one o'clock. Consulting Physician in Obstetric Cases, Dr. Ramsbotham, who attends on Mondays at one p.m.

Fees of Attendance on the Hospital Practice.—On the Medical Practice—For six months, 6 guineas; for period required by Apothecaries' Hall, 11 guineas. On the Surgical Practice and Dressing—For twelve months, including six months' dressership, 12 guineas; for eighteen months, including twelve months's ditto, 18 guineas; for three years, including twelve months' ditto, 25 guineas; for twelve months' additional dressership, during the above three years, 5 guineas; for twelve months' dressership, after expiration of the above three years, 8 guineas. The pupils enter and dress under all the Surgeons. Two in rotation remain in the hospital day and night for a week, and are provided with commons. The privilege of dressing for twelve months is given annually to three pupils of the school, each pupil being previously required to dress the out-patients for one year. Two House-Surgeons are elected every six months, without any additional fee. They reside in the hospital, and are provided with commons.

Clinical lectures will be given by the Physicians and Surgeons. The *post-mortem* examinations take place, as opportunities occur, at two p.m. Microscopical demonstrations of Morbid Anatomy will be given by Dr. Parker. The Anatomical Museum is open daily to the students from eleven a.m. to two p.m. The Reading room is open daily from ten a.m. to four p.m. Gentlemen, who have entered to the medical or surgical practice, or to two or more courses of lectures, will be admitted, without any fee, to the Reading-room; and to the privileges of the Library, on depositing 1*l*., to be returned at the termination of the period of study at the hospital. A Cabinet of Materia Medica is open to the students. Medals and certificates of merit will be offered for competition in all the classes.

Hospital Prizes.—Two gold medals will be annually awarded by the Governors to such students attending the medical and surgical practice, as shall have most distinguished themselves in the performance of their duties at the hospital.

Further information may be obtained from Mr. Adams or Mr. Curling, or on application to Dr. Letheby, at the Anatomical Museum.

MIDDLESEX HOSPITAL SCHOOL OF MEDICINE. SESSION 1849-50.

Physicians—Francis Hawkins, M.D.; Mervyn A. N. Crawford, M.D.; Seth Thompson, M.D. Physician-Accoucheur—Charles West, M.D. Assistant-Physician—Robert Gordon Latham, M.D., F.R.S. Surgeons—Mr. Alexander Shaw, Mr. Campbell de Morgan, Mr. Charles H. Moore. Assistant-Surgeon—Mr. Mitchell Henry. Surgeon-Dentist—Mr. Tomes. Apothecary—Mr. Corfe.

The Hospital has recently been much enlarged, and important alterations and improvements have been introduced in its internal arrangements. It now receives 285 in patients, and contains wards specially appropriated to the admission of cases of syphilis and of cancer, in the male and female, and of uterine disease. Clinical Clerks and Dressers are selected by the Physicians and Surgeons of the Hospital from the most deserving pupils, without additional fee. Pupils are required to dress in the out-patient room and surgery before becoming eligible as dressers to the in-door patients. A Senior and Junior House-Surgeon are elected half yearly from the Dressers, and are provided with board and residence in the Hospital, free of expense. The in-patients are visited daily, at one o'clock punctually. Clinical Lectures will be given during the Winter and Summer Sessions. Clinical Prizes.—With a view to encourage the habit of investigating and recording at the bedside the phenomena of disease, the Physicians and Surgeons have instituted two prizes, of the value of 10 guineas each, which will be awarded, at the Annual Distribution, to the Students who shall present the best reports of cases that have occurred in the Hospital during the preceding Winter Session. Practical instruction in minor surgery, bandaging, &c., will be given by the Assistant-Surgeon. The hours of lecture, &c., have been so arranged as to allow as large an amount of time as possible for attendance in the wards of the Hospital, and at *post-mortem* examinations, and for dissection. The average annual number of out patients treated during the past five years is 9,316 The medical and surgical out-patients are attended on three days in the week by the Assistant-Physician and Assistant-Surgeon respectively, at 8 a.m. and every opportunity is taken to render this department available to the pupils for the prompt and ready investigation of disease. Midwifery and the Diseases of Women and Children.—Upwards of 500 cases of labour were attended under the direction of the Physician-Accoucheur, during the last year, and the students are at all times furnished with an ample supply of cases under his superintendence. Out-patients with uterine and infantile diseases are seen by the Physician Accoucheur on Mondays and Thursdays at twelve o'clock. Ophthalmic Department.—Patients with diseases of the eye are attended by Mr. De Morgan, on Mondays, Wednesdays, and Fridays, at twelve o'clock. Dental Surgery.—Pupils receive instruction in the operations and diseases of the teeth on Tuesdays, Thursdays, and Saturdays, at nine o'clock, from the Surgeon-Dentist. Morbid Anatomy and Pathology.—Post mortem examinations are performed by the Assistant Surgeon at two o'clock.

Medical Practice.—For three months, 6*l*. 6s; six months, 10*l*. 10s.; eighteen months, 15*l*. 15s.; an unlimited time, 21*l*. Surgical Practice.—For three months, 9*l*. 9s.; six months, 12*l*. 12s.; three years, 18*l*. 18s.; an unlimited time, 21*l*. Fee to the Apothecary, 1*l*. 1s. Fee to the Secretary, 5s. Students who are desirous of entering to the Medical and Surgical Practice of the Hospital, apart from the Lectures, for the periods required by the College of Surgeons and Apothecaries' Company, (viz., eighteen months of medical and three years of surgical practice,) may do so by making one payment of 30*l*. This includes the fees of the Apothecary and Secretary.

Instruction in Practical Pharmacy, with opportunities of Dispensing, is given by the Apothecary. Fee, for six months, 8 guineas; for twelve months, 12 guineas.—Instruction in Pharmacy, in the Drug room, without Dispensing. For three months, 6 guineas.

The Museum is open to students daily, and bones and models are supplied to them in it for study during the intervals of lecture. Students have frequent opportunities of making microscopical examinations of natural and morbid structures. Admission to the Library and Reading-room is included in the fees paid by general students. Occasional students, who desire to make use of the Library, may do so on payment of half a guinea. The Library has been considerably enlarged; it now contains an extensive collection of standard medical works, with the various medical periodicals. For the convenience of students, the authorities of the Hospital have made arrangements, by which they may dine with the resident officers, at the Board-room table. Parents and guardians who propose sending pupils to the school, may communicate with Mr. De Morgan, Treasurer to the school, at the Hospital, daily, from twelve to two o'clock; or information may be obtained on application to any of the Lecturers, or to Mr. Curfe, the Apothecary, at the Hospital.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL. SESSION 1849—50.

Hospital Practice.—Physicians—Dr. Wilson, Dr. Nairne, Dr. Page, and Dr. Bence Jones, F.R.S. Assistant Physicians—Dr. Pitman and Dr. Fuller. Surgeons—Mr. Keate, Mr. Hawkins, Mr. Cutler, and Mr. Tatum. Assistant Surgeons — Mr. H. Charles Johnson and Mr. Prescott Hewett.

Gentlemen are admitted to the Practice of the Physicians on the following terms:—Six months, 8 guineas; one year, or the period required by the Society of Apothecaries, 16 guineas; perpetual pupils, 24 guineas; fee to the apothecary, 1 guinea. Gentlemen are admitted to the Practice of the Surgeons on the following terms:—Six months, 15 guineas; one year, or the period required by the College of Surgeons, 20 guineas; perpetual pupils, 50 guineas.

Attendance of the Physicians and Surgeons daily at one o'clock. Surgical operations on Thursday. Clinical lectures are given by the Physicians and Surgeons of the Hospital during the Winter and Summer Sessions. Patients with diseases of the eye are treated by Mr. Tatum on Mondays and Fridays, at one o'clock. Gentlemen may be instructed in Pharmacy, in the Laboratory and Dispensary of the Hospital on the following terms:—Six months, 12 guineas; one year, 15 guineas. The pupils attending the Medical practice may become, when qualified, Clinical Clerks to the several physicians; the pupils attending the Surgical practice may become, when qualified, clinical clerks to the several Surgeons. Pupils entering to the Surgical practice for twelve months are allowed, when qualified, to dress the patients for three months, and perpetual pupils for six months, without additional fee. The perpetual pupils are eligible to be Assistant House-Surgeon for six months and House-Surgeon for twelve months (without additional fee), when properly qualified for the office. The Library and Reading-room are open during the greater part of the day. Subscription for the first year, 1 guinea, and 5 shillings for every subsequent year. The Museum is open daily to the pupils of the Hospital.

Students may compound, by payment of 50*l*., for admission to all the lectures required by the regulations of the College of Surgeons and Society of Apothecaries, (Practical Chemistry excepted) or by payment of 55*l*. for perpetual admission to all the Lectures, (Practical Chemistry excepted.) Such students will be required to pay a matriculation fee of 10s.

Examinations of those students who are Candidates for Prizes and Certificates of Merit will take place at the end of each Course.

There will be examinations for two Scholarships in April, 1850.

Further information may be obtained from any of the Lecturers, or from Mr. Hammerton, the Apothecary of the Hospital, who is authorised to enter the names of students.

THEATRE OF ANATOMY AND MEDICINE, No. 1, GROSVENOR-PLACE. ADJOINING SAINT GEORGE'S HOSPITAL. SESSION 1849-50.

Hospital Practice.—Table of fees for attendance upon the medical and surgical practice of St. George's Hospital:—Medical, six months, 8 guineas; twelve months, or time required by Examining Boards, 16 guineas; perpetual, 25*l*. 5s.; surgical, 15 guineas; twelve months, or time required by Examining Boards, 21*l*.; perpetual, 52*l*. 10s; apothecary's fee for students entering to the medical practice one guinea. All students entering to the hospital practice are entitled to attend the Clinical Lectures there delivered; and also to become house-surgeons and dressers when qualified, without the payment of an extra fee. The library and reading-room are open to all students of the hospitals upon payment of the usual fee. Medals or prizes, and honorary certificates, will be awarded in each class, and publicly presented on Wednesday, May 1st, 1850, at half-past two. Clinical prizes:—Prizes will be awarded by the lecturers of this school, for the best Reports of medical and Surgical cases occurring in the wards of St. George's Hospital; the competition for which will be open to all the students of the hospital. The microscope will be used to illustrate particular subjects in the lectures upon anatomy, chemistry, and botany. The dissecting-room and Museum are open to the students during day-light, where their studies will be superintended by the lecturers on anatomy, and by the anatomical tutors, from ten to half-past three o'clock. General fee to the whole of the courses required by the Royal College of Surgeons of England, and the Apothecaries' Company, including one course of practical chemistry, 42 guineas; half of which may be paid on the entrance of pupils, and the remaining half in January, at the commencement of the second division of the course. Further particulars respecting the school may be obtained at the Theatre, 1, Grosvenor-place, or at the residence of the Honorary Secretary, Dr. W. V. Pettigrew, 7, Chester-street.

WESTMINSTER HOSPITAL SCHOOL OF MEDICINE.—SESSION 1849-50.

The session will commence on Monday, Oct. 1st, 1849, with an introductory lecture, at 4 p.m., by Dr. Hamilton Roe.

Hospital Practice, daily from 12 to 2.—Consulting Physician, Dr. Bright; Physicians, Dr. Hamilton Roe, Dr. Kingston, Dr. Basham; Consulting Surgeon, Mr. Guthrie; Surgeons, Mr. Lynn, Mr. Hale Thomson, Mr. Benjamin Phillips; Assistant-Surgeon, Mr. Barnard Holt. Clinical lectures will be delivered regularly, twice a-week, by the Physicians and Surgeons. *Post mortem* examinations will be made under the superintendence of the Physicians and Surgeons; on which occasions, pathological demonstrations will be given, to illustrate the structural changes effected by disease.

Fees for Attendance.—Medical Practice: Six months, 10 guineas; twelve months, 12 guineas; eighteen months, 15 guineas; perpetual, 20 guineas. Surgical Practice: three months, 8 guineas; six months, 12 guineas; twelve months, 20 guineas; perpetual, 30 guineas. Conjoint fee for the period of hospital practice required by the Royal College of Surgeons and the Society of Apothecaries, 26 guineas.

Maternity Charity.—Physicians, Dr. Frederick Bird and Dr. W. Merriman; Surgeon, Mr. Greenhalgh. This Charity affords attendance to 500 lying-in patients annually. Clinical lectures will be delivered by Mr. Greenhalgh.

General fee to all the lectures required by the Royal College of Surgeons and Society of Apothecaries, 40 guineas, exclusive of practical chemistry. The fees are to be paid to the Secretary of the Hospital, who will issue tickets of admission to the courses, which must be subsequently counter signed by the Lecturers. Clinical Assistants, Clinical Clerks, and Dressers, will be selected from the best qualified students without extra fee. Certificates of honour in all the classes will be awarded at the end of each session. Further particulars may be obtained by application to the Physicians and Surgeons, the Lecturers, or to F. J. Wilson, Secretary of the Westminster Hospital.

CHARING-CROSS HOSPITAL.—MEDICAL SCHOOL, LONDON. WEST STRAND, NEAR CHARING-CROSS. SESSIONS 1849—1850.

Hospital Practice.—Physicians—Dr. Shearman, Dr. Golding, Dr. Chowne. Surgeons—Mr. Hancock, Mr. Avery.

Medical Practice—Six months, 10 guineas; full period required, 15 guineas. Surgical Practice—Six months, 10 guineas; full period required, 15 guineas. Full period required, to both Medical and Surgical Practice, 25 guineas.

The Physicians and Surgeons visit the wards, on

their respective days, between one and two o'clock. The cases in the out-patients' department are seen and prescribed for at the Hospital daily, between twelve and two o'clock. Clinical Lectures—Medical and Surgical Clinical Lectures are given weekly, by the Physicians and Surgeons of the Hospital. Practical Pathology — *Post-mortem* Examinations are performed in available cases. The Museum contains numerous instructive preparations of morbid and natural structure; together with a cabinet of Materia Medica, models, casts, drawings, diagrams, &c., for illustrating the various lectures. A gold medal, and other medals and testimonials of honour, are presented publicly to the successful candidates early in May, after the termination of the session. Diligence and regularity of attendance on the practice and classes are expected, as a preliminary qualification for the competition.

Certificates of attendance at this Hospital and School qualify for examination, on the respective subjects, at the University of London, Royal College of Surgeons, and Society of Apothecaries.

General fee, for all the lectures required by the College of Surgeons and Society of Apothecaries, 42 guineas; without Practical Chemistry, 40 guineas.

HUNTERIAN SCHOOL OF MEDICINE,
No. 1, BEDFORD STREET, BEDFORD-SQUARE.
ESTABLISHED IN 1822, BY THE LATE MR. DERMOTT.
SESSION 1849–1850.

For all the lectures required by the Royal College of Surgeons, Apothecaries' Hall, &c., 32 guineas. Hospital practice, both medical and surgical, together with the above lectures, 57 guineas. The different courses of lectures will be illustrated by preparations; recent specimens of diseased structure; a Hortus Siccus, and microscopes, with anatomical and pathological drawings. There will also be an ample supply of midwifery patients. Medical officers of the army and navy, and the East India Company's service, and missionaries, are permitted to attend gratuitously the whole of the public lectures delivered at this school. A private class will be established for preparing students to pass the different Examining Boards. Terms, five guineas. The private instruction will be undertaken by the tutors. Assistant Navy surgeons can prosecute private courses of operative surgery, and receive private instruction upon regional anatomy, preparatory to their examination for full surgeoncy, in accordance with the late regulations of the Admiralty. Resident house pupils are free to all the lectures delivered in the establishment,—have the privilege of attending all the courses of private instruction, besides receiving especial private aid and direction in the pursuit of their studies; also dissection, and consequently ample opportunities for acquiring a thorough knowledge of every branch of the Profession. They have also the choice of attending the Western, Farringdon, and Surrey Dispensaries, and the Metropolitan Free Hospital, all which Institutions are recognised. Out-door and in-door apprentices have opportunities for acquiring theoretical and practical knowledge in every branch of the profession. Their indentures are so arranged as to serve for passing the examinations, both at the College of Surgeons and Apothecaries' Hall; and the full curricula of study guaranteed for the degree of Doctor of the University of London, the London College of Physicians, and the diploma of the College of Surgeons. They have also the privilege of attending all the courses of private instruction, besides that of having special private tutorage. The widow of the late Mr. Dermott has an interest in the school. Prospectuses of the school, and any further information, may be had by application to Dr. Aldis, 1, Chester terrace, Chester-square; and at 28, Bedford square; or to any of the lecturers.

ROYAL COLLEGE OF CHEMISTRY, OXFORD-STREET, LONDON.

The practical course of instruction in this Institution is under the direction of Dr. A. W. Hofmann and assistants. The next session will commence on Monday, the 1st of October next, and end on Saturday, the 23rd of February, 1850. The fee for students working every day during the session is 15*l.*; for four days in the week, is 12*l.*; for three days in the week, is 10*l.*; for two days in the week, is 7*l.*; for one day in the week, is 5*l.* Hours of attendance from nine to five. Further particulars may be obtained on application to the Secretary, Mr. William Johnson.

LONDON CUTANEOUS INFIRMARY.
Established 1841.

The medical and surgical practice is open to practitioners and students. A fee of five guineas (applied towards the support of the Charity) admits to an unlimited attendance, and also to Mr. Startin's lectures on diseases of the skin, a course of which will commence in October next, and be extensively illustrated by cases in attendance and wax models. 21,760 cases of cutaneous diseases are now registered on the books of the Infirmary, and the annual number of patients averages 7000. Further particulars may be obtained on application to Thomas Bowen, Resident Dispenser, 25, Bridge-street, Blackfriars.

SCOTLAND.
UNIVERSITY OF EDINBURGH (1582).

Matriculation.—Every students in the faculties of arts, law, and medicine, before entering with any Professor, must produce a matriculation ticket for the ensuing session. Tickets will be issued at the matriculation office, in the Colleges, every lawful day, from ten till three. Enrolment in the general album is the only legal record of attendance in the University.

Library.—The library will be open for the purpose of giving out books to students, either on loan or for reference, in the hall appropriated for that purpose, every lawful day during the winter session, from ten a.m. till four p.m., except on Saturdays, when it will be shut at one precisely.

Every student applying for books must present to the Librarian his matriculation ticket for the session, with the ticket of at least one Professor.

Every book taken out must be returned within a fortnight, uninjured.

Fee for each course, 4*l.* 4*s.* For graduation, 25*l.*

Statutes of the University of Edinburgh Relative to the Degree of M.D.

Sect. I. No one shall be admitted to the examinations for the degree of doctor of medicine who has not been engaged in medical study for four years, during at least six months of each, either in the University of Edinburgh, or in some other University where the degree of M.D. is given; unless, in addition to three Anni Medici in a University he has attended during at least six winter months, the medical or surgical practice of a general hospital, which accommodates at least eighty patients, and during the same period a course of practical anatomy in which case three years of university study shall be admitted.

Sect. II. No one shall be admitted to the examinations for the degree of doctor who has not given sufficient evidence—1. That he has studied, once at least, each of the following departments of medical science, under professors of medicine, in this or some other university, as already defined,—viz.:—

During Courses of Six Months.—Anatomy, chemistry, materia medica, and pharmacy institutes of medicine, practice of medicine, surgery, midwifery, and the diseases peculiar to women and children, general pathology, practical anatomy (unless it has been attended in the year of extra-academical study allowed by Sect I.)

During Courses of Six Months or Two Courses of Three Months.—Clinical medicine, that is, the treatment of patients in a public hospital, under a professor of medicine, by whom lectures on the cases are given.

During Courses of at least Three Months.—1. Clinical surgery, medical jurisprudence, botany, natural history, including zoology. 2. That in each year of his academical studies in medicine he has attended at least two of the six months' courses of lectures above specified, or one of these and two of the three months' courses. 3. That besides the course of clinical medicine already prescribed, he has attended, for at least six months of another year, the medical or surgical practice of a general hospital, either at Edinburgh or elsewhere, which accommodates not fewer than eighty patients. 4. That he has attended for at least six months, by apprenticeship or otherwise, the art of compounding and dispensing drugs at the laboratory of a hospital, dispensary, member of a Surgical College or Faculty, Licentiate of the London or Dublin Society of Apothecaries, or a professional chemist or druggist. 5. That he has attended for at least six months, by apprenticeship or otherwise, the out-practice of a hospital, or the practice of a dispensary, or that of a physician, surgeon, or member of the London or Dublin Society of Apothecaries.

Sect. III. No one shall obtain the degree of Doctor who has not studied, in the manner already prescribed, for at least one year previously to his graduation, in the University of Edinburgh.

Sect. IV. Every candidate for the degree in medicine must deliver, before the 24th of March of the year in which he proposes to graduate, to the Dean of the Faculty of Medicine—1. A declaration, in his own handwriting, that he is twenty-one years of age, or will be so before the day of graduation, and that he will not be then under articles of apprenticeship to any surgeon or other master. 2. A statement of his studies, as well in literature and philosophy as in medicine, accompanied with proper certificates. 3. A medical dissertation, composed by himself, in Latin or English, to be perused by a professor, and subject to his approval.

Sect. V. Before a candidate be examined in medicine, the medical faculty shall ascertain, by examination, that he possesses a competent knowledge of the Latin language.

Sect. VI. If the faculty be satisfied on this point, they shall proceed to examine him, either *vivâ voce* or in writing—1. On anatomy, chemistry, botany, institutes of medicine, and natural history, bearing chiefly on zoology; and, 2. On materia medica, pathology, practice of medicine, surgery, midwifery, and medical jurisprudence.

Sect. VII. Students who profess themselves ready to submit to an examination on the first division of these subjects, at the end of the third year of their studies, shall be admitted to it at that time.

Sect. VIII. If any one, at these private examinations, be found unqualified for the degree, he must study, for another year, two of the subjects prescribed in Section II., under Professors of Medicine, in this or in some other University, as above defined, before he can be admitted to another examination.

Sect IX. Should he be approved of, he will be allowed, but not required, to print his thesis; and, if printed, forty copies of it must be delivered, before the 25th day of July, to the Dean of the Medical Faculty.

Sect. X. If the candidate have satisfied the Medical Faculty, the Dean shall lay the proceedings before the Senatus Academicus, by whose authority the candidate shall be summoned, on the 31st of July, to defend his thesis; and, finally, if the Senate think fit, he shall be admitted, on the first lawful day of August, to the degree of Doctor.

Sect. XI. The Senatus Academicus, on the day here appointed, shall assemble, at ten o'clock, a.m., for the purpose of conferring the degree; and no candidate, unless a sufficient reason be assigned, shall absent himself, on pain of being refused his degree for that year.

Sect. XII. Candidates for graduation shall be required to produce evidence of their having conformed to those regulations which were in force at the time they commenced their medical studies in a university.

UNIVERSITY OF GLASGOW.

Regulations regarding Degrees in Medicine and Surgery to Candidates entering the University in, or subsequent to, 1839 40.

Medicine.—Every candidate for a medical degree must lodge with the Clerk of Senate—

1. A certificate of moral character, by two re-

spectable persons, with evidence of having attained the age of twenty-one.

2. Evidence of having attended, for four years, university in which medicine is regularly taught, or medical lectures delivered in London or Dublin and at least one year of the four must be spent at the University of Glasgow. In each year, he must have attended at least two courses of lectures of six months' duration; but if he shall spend one year only at the University of Glasgow, then he must attend three courses of lectures delivered there two of them, at least, being of six months' duration.

3. Certificates of having attended one or more courses of lectures on the following subjects, each course, except forensic medicine and botany, being of six months' duration; if of less extent, then two courses shall be deemed equivalent to one of six months:—Anatomy and physiology; chemistry, the theory or institutes of medicine; practice of medicine; materia medica and pharmacy; midwifery; surgery; forensic medicine; botany (a); anatomical dissections; and two years' practice of a general hospital, containing eighty beds, and in which the student must spend at least one-half of the period of attendance in the physicians' wards. Neither hospital attendance nor anatomical dissections shall be considered as equivalent to a course of lectures.

4. Each candidate must lodge with the clerk of Senate, with the above certificate, a schedule of his course of study, properly filled up, together with an English essay on some medical subject chosen by himself, two months before the time of graduation—that is, on or before the 1st of March or the 10th of June, yearly—otherwise he cannot be admitted for examination till the following term. All tickets of attendance lodged by candidates must be certified, not excepting those of the current session; but the certified botanical tickets of the current session shall not be received until the 1st of April.

5. No student entered in any medical class later than the 1st of December, without special permission of the senate. And it is strictly required of every candidate for graduation that he produce evidence of his name having been enrolled in the library book, on or before that day, as well as an express certificate of his regular attendance by each Professor on whose lectures he attends. In order, further, to insure attendance, all students must inscribe their names, once a fortnight, in a register kept for the purpose, stating the lectures, &c., which they attend.

6. Every candidate shall prove that he has a competent knowledge of Latin, and shall undergo full examinations on all the subjects included in the curriculum.

Surgery.—The regulations respecting certificates of age and moral character are the same as those under the head of degrees in medicine.

Candidates for the degree of master of surgery shall produce evidence that they have attended medical lectures in one or other of the universities or schools already specified for four years, during which they must have attended one or more courses on the following subjects, the extent of each course, with the exception of forensic medicine, being six months, or the equivalent two courses of a shorter duration. The candidate must have attended not less than three courses of medical lectures in the University of Glasgow. In each year of his study he shall have attended at least two or more courses of lectures, of six months' duration, on anatomy, surgery, chemistry, theory or institutes of medicine, practice of medicine, midwifery, materia medica and pharmacy, forensic medicine, anatomical dissections, and two years' practice of a general hospital, in which the student must attend one half of the prescribed period in the surgical wards, and the other half in the medical.

The regulations as to lodging certificates of attendance, and an essay in English, and as to the candidate's knowledge of Latin, are the same as under the head of medical degrees, only the essay is to be on a surgical subject. The days of graduation are the last Wednesday of April and the first Wednesday of August.

Fee to the library, &c., for the degree of M.D.	£15 0 0
Duty on stamp for ditto . .	10 3 0
	£25 3 0
Fee for the degree of Chirurgiæ Magister	£10 10 0

N. B. Candidates for degrees who attended classes in the University of Glasgow previously to 1839 40, admitted to examination according to the regulations which existed at the time when they began to study medicine.

(a) No course of botany attended previously to 1839-40 is received, unless it shall have been delivered in a university.

UNIVERSITY OF ST. ANDREWS. (1412.)

Regulations for Granting Medical Degrees.—The candidate must produce evidence of unexceptionable moral character, and before being admitted to examination must subscribe a declaration that he is twenty-one years of age.

The candidate must have had a liberal classical education, and, if he be not in the possession of the degree of A.M., must be ready to undergo an examination as to his proficiency in the Latin language.

The candidate must produce certificates that he has regularly attended lectures delivered by Professors in some University, or by resident fellows of the Royal Colleges of Physicians or Surgeons of London, Edinburgh, Glasgow, Aberdeen, or Dublin, for at least four complete winter sessions, or three winter and three summer sessions, on the following branches:—1, anatomy, two courses of six months each; 2, practical anatomy, twelve months; 3, theory of medicine, or physiology, one course of six months; 4, chemistry, one course of six months; 5, practical chemistry, one course of three months; 6 materia medica and pharmacy, one course of six months; 7, surgery, one course of six months; 8, clinical medicine, one course of six months; 9, practice of medicine, one course of six months; 10, clinical surgery, one course of six months; 11, midwifery and diseases of women and children, one course of three months; 12, an apprenticeship, or six months' attendance in the shop of an apothecary, or in the laboratory of a public hospital or dispensary; 13, attendance at a public hospital, containing not less than eighty beds, for at least eighteen months.

These regulations will be invariably observed, except when the candidates are possessed of a surgeon's diploma or license from the Colleges of London, Edinburgh, or Dublin, or the Faculty of Physicians and Surgeons of Glasgow, or a licence from the Apothecaries' Company, in which case they have merely to present such diploma or license previous to their examination for M.D.

KING'S COLLEGE, ABERDEEN.

Regulations to be observed in granting Degrees in Medicine at King's College.

All Candidates for the degree of M.D. must be of the age of twenty-one years, and must produce satisfactory certificates of moral character, and exhibit the diploma of A.M. from some University.

All candidates, with the exceptions mentioned below, must have been engaged in the study of medicine for, at least, four years, one of which must be passed in Aberdeen, and must produce evidence of having attended, in some recognised school of medicine, the following courses of lectures:— Six months' courses: anatomy, two courses; chemistry, one course; materia medica, one course; surgery, one course; institutes of medicine and physiology, one course; practice of medicine, one course; midwifery, one course. Three months' courses: dissections, two courses; practical chemistry, one course; medical jurisprudence, one course; clinical surgery, one course; botany, one course; clinical medicine, two courses.

In addition to the above, the candidate must have attended, for two years, the wards of a hospital containing 100 beds; and, during three months, a shop, or dispensary, for the compounding of medicine.

The preceding regulations are strictly enforced in the case of all students who shall commence their medical studies at a period subsequent to October 1, 1840. But gentlemen who possess a licence, or diploma, from any of the Royal Colleges of Physicians or Surgeons, and who have been engaged for, at least, five years in the practice of medicine, may be admitted to examination on producing their license, or diploma, along with satisfactory evidence of sufficient preliminary education and of good moral character.

Previously to examination each candidate must lodge with the Secretary 26*l.* 5s. 6d., the same to be returned to him should he not obtain his degree.

Degrees in medicine are conferred at two stated periods annually—viz., at the end of April, and at the end of July.

REGULATIONS FOR GRANTING MEDICAL DEGREES IN MARISCHAL COLLEGE AND UNIVERSITY, ABERDEEN.

Curriculum.—Four years of attendance on medical classes, of which one year may be passed at any recognised medical school; but three, at least, must be passed in a university, including one, at least, in this university. The attendance in each year to embrace not fewer than two medical classes of six months each; or one of six months, with two of three months each. But it will be held equivalent to *one* of four years of such attendance in a university—1st, in a master of arts, to have attended one medical class while passing through the curriculum of arts; or, 2ndly, in any student to have attended a medical class, in each of two years, along with classes in the curriculum of arts. The university attendance to include the following eight classes, each for a course of six months:—Anatomy, practical anatomy, chemistry, materia medica, institutes of medicine, surgery, practice of medicine, midwifery; and the following three classes, each for a course of three months—botany, practical chemistry, and medical jurisprudence.

Eighteen months of attendance on the medical and surgical practice of a hospital containing not fewer than eighty beds, along with attendance for six months on lectures on clinical medicine, and for three months on lectures on clinical surgery.

Six months of compounding and dispensing medicines in the laboratory of a hospital, or of a public dispensary, or of a licensed general practitioner, or of a regular dispensing druggist.

Exemption to Practitioners.—It will be held equivalent to the curriculum prescribed in the three foregoing regulations to have obtained, upon examination, a diploma or a license, in medicine or in surgery, from a university or other authority established by law within the United Kingdom, and to have subsequently attended medical classes in this University during one winter session.

Examinations.—The examination terms to be two in each year,—the *first* to commence on the 20th of April, if a Wednesday, but if not, on the first Wednesday thereafter; the *second* on the 20th of October, if a Wednesday, but if not, on the first Wednesday thereafter.

Every candidate to undergo at least three separate professional examinations: the first, pharmaceutical; the second, surgical; the third, medical; to be conducted partly in writing, as well as *vivâ voce*, and partly by demonstration. The *first* to include chemistry, botany, materia medica, pharmacy, and the doctrines of physics relating to specific gravities, to gases and vapours, and to climate. The *second* to include anatomy, institutes of medicine, surgery, and the doctrines of chemistry and physics illustrative of animal structure and function. The *third* to include the practice of medicine, midwifery, and medical jurisprudence.

Every candidate not a Master of Arts must undergo a preliminary examination on the Latin language, (the book to be used being "Celsus de Medicinæ,") and on the etymology of such terms in the medical sciences as are derived from the Latin and the Greek.

Any candidate that so desires shall be admitted to each one, or to any two, of his three professional examinations, at different terms; but not to the

first examination until the beginning of his third year of medical classes; nor to the second until the end of his third year; nor to the third until the end of his fourth year, and until he be 21 years of age; nor shall a greater interval than eighteen months be allowed between two successive professional examinations without a full renewal of the previous one or two. The preliminary examination must be passed at the same term as the first professional examination.

In order to be received for examination, certificates must have been lodged with the Professor of Medicine on the first day of the month of the examination term, showing that the candidate is of the required age, that he is of good moral character, and that he has passed through the requisite course of professional education. Along with such certificates must be lodged a schedule, filled up in his own handwriting, containing a list of them, and specifying such additional branches of education, professional and general, as he may have studied.

ROYAL COLLEGE OF PHYSICIANS, EDINBURGH.

The members of the College are respectively entitled Fellows, Non-resident Fellows, and Licentiates.

Ordinary Fellows.—No one shall be elected an ordinary Fellow of the College till he has obtained the degree of doctor of medicine.

Every motion for the election of a Fellow shall be made, at a quarterly meeting, by one of the Fellows present, seconded by another, and determined by ballot—a majority of three-fourths being necessary to carry it in the affirmative.

No physician residing in Edinburgh shall be proposed for a resident Fellowship till he has been a licentiate for nine months, or, in case of his not being a licentiate, till nine months after his petition to be admitted a resident Fellow shall have been presented, unless an urgent reason be assigned; in this case, he may be proposed even on the same day on which he becomes a licentiate, or at any other quarterly meeting, or at a meeting specially called for the purpose, if this proposal shall be agreed to by every member present.

No Fellow shall engage himself to any candidate before the ballot; nor shall he reveal to any person in what manner he did ballot, under the pain of being considered as one who has broken his faith and honour to the College.

No Fellow shall take his seat in the College till the quarterly meeting after that on which he is elected, intimation to attend being then sent to him by the Clerk.

The Fellows shall be placed on the roll according to the dates of their admissions; and, when two or more Fellows are admitted on the same day, they shall be entered on the roll according to the dates of their diplomas; and, if their diplomas be of the same date, they shall be enrolled according to their ages.

Every Fellow, before taking his seat in the College, must sign a promissory engagement.

Graduates of Foreign Universities must previously submit to an examination, which can only be dispensed with by an unanimous vote of the College upon a motion made by a Fellow, of which due notice requires to be given.

If an examination shall take place, it shall consist of three trials: the first, by two Fellows appointed by the College, on any part of Medicine; the second, by two other Fellows, on two aphorisms of Hippocrates; and the third, by two other Fellows, on two medical cases. All these trials shall be in the presence of the College, and in the Latin language.

Non resident Fellows.—No physician residing in Edinburgh is eligible for a non-resident fellowship.

The mode of election of a non-resident Fellow is the same as that of a resident fellow; and the laws regarding examination, in the case of a foreign degree, also apply to him.

Fees.—The fee to be paid by a resident Fellow is about 130*l.*

The fee to be paid by a non-resident Fellow is 80*l.*

The fees are exclusive of any tax payable to the Government now existing, or which may hereafter be imposed.

ROYAL COLLEGE OF SURGEONS, EDINBURGH. (1505.)

Regulation for Fellows.—The candidate is required to present an essay on some surgical subject, which, if approved of, he must print for circulation among the fellows. He must then undergo three examinations—1. On anatomy and surgery; 2. On chemistry, materia medica, &c.; 3. On the essay he has written. If these are satisfactorily passed, he is admitted to the fellowship. Fee, 250*l.*; to apprentices of fellows, 100*l.*

School of Medicine.—Every candidate for a surgical diploma must have followed the course of study, to be specified afterwards, in a university; or at the seat of an established school of medicine, as defined below; or in a provincial school, specially recognised by the College.

Under the title, established school of medicine, are comprehended all places in this kingdom where diplomas in surgery are granted, and such foreign schools as are acknowledged by the constituted authorities of the countries in which they exist.

The extent and period of study allowed to be gone through at a provincial school will be regulated by the means and facility of study which the College receive evidence of its affording; but the lectures delivered at a provincial school will be held as qualifying for only one year's course of study unless specially recognised for more.

Qualifications of Teachers.—The following classes of persons shall be entitled to give lectures, which may be attended as part of the course of study:—1. In the universities of Great Britain and Ireland, and in University College and King's College, London, the Professors of these Institutions. 2. In Edinburgh, resident Fellows o the Royal College of Physicians of Edinburgh and Fellows of the Royal College of Surgeons of Edinburgh. 3. In London, Fellows and Licentiates of the Royal College of Physicians of London, and members of the Royal College of Surgeons of London, whose status as teachers has been admitted by that College. 4. In Dublin Fellows of King's and Queen's College of Physicians in Ireland, and members of the Royal College of Surgeons in Ireland. 5. In Glasgow, members of the Faculty of Physicians and Surgeons of that city. 6. In recognised provincial schools, teachers whose status as such has been admitted by the College, on special application. 7. In any of the above schools, teachers who, having acquired a status as such in one of the four established schools, in conformity with the above regulations, shall have been subsequently admitted, on application to the College, to the enjoyment of the same privileges in another school. (a)

The following branches of instruction may be conjoined:—Anatomy and Practical Anatomy, Chemistry and Practical Chemistry, Practice of Medicine and Clinical Medicine, Practice of Surgery and Clinical Surgery, Mathematics and Mechanical Philosophy; and, for the present, Clinical Medicine or Clinical Surgery may be taught in conjunction with any one of the other courses of education prescribed in the curriculum, by a physician or surgeon qualified according to the regulations of the College, and attached to a public Hospital of the size which these regulations prescribe.

Course of Study.—*Preliminary Instruction.*—Every candidate for the diploma of the Royal College must, either previously to or during his medical education, have received regular instruction in the elements of mathematics; and must have subsequently attended a course of mechanical philosophy of at least three months' duration, and of not fewer than sixty lectures.

Professional Instruction.—The candidate must have been engaged in attending the following separate and distinct courses of lectures during a period of not less than twenty-seven months, in which must have been included three winter sessions of six months' duration each. Anatomy, two courses of six months each. Practical anatomy, twelve months. Chemistry, one course of six months. Practical chemistry (the number of pupils in each class being limited to twenty-five), one course of three months. Materia medica and pharmacy, one course of six months. Practical pharmacy, one course of six months. Institutions of medicine or physiology, one course of six months. Practice of medicine, one course of six months. Clinical medicine, one course of six months, or two courses of three months each, during the period of his attendance at the hospital where they are delivered. Principles and practice of surgery, two courses of six months each, or principles and practice of surgery and military surgery, one course of six months each. Clinical surgery, one course of six months, or two courses of three months each, during the period of his attendance at the hospital where they are delivered. Midwifery and diseases of women and children, one course of three months. Medical jurisprudence, one course of three months. Besides the above-mentioned course of lectures, the candidate must have attended a course of instruction in practical pharmacy, at the laboratory of a surgeon or apothecary; or of a chemist and druggist recognised by the College on special application; or of a public hospital or dispensary; and he must produce evidence that he has been engaged in compounding and dispensing medicines for the space of six months. Those who produce certificates of having been, for the space of at least two years, private pupils or apprentices to regularly licensed medical Practitioners, keeping laboratories for dispensing medicines, shall be exempted from attendance on this branch of instruction.

The six months' courses delivered in Edinburgh must consist of not fewer than 110 lectures, with the exception of clinical medicine, clinical surgery, and military surgery. The three months' courses must consist of not fewer than sixty lectures. Two London courses of three months each on any of the above subjects will be taken as equivalent to one six months' course.

The candidate must also have attended for twenty-one months a public general hospital containing at least eighty beds.

Fees payable by Candidates.—For a diploma, ordinary candidates pay the sum of 7*l.* 5s. (Apprentices of fellows of the Royal College, bound for the freedom, pay 25s.; their other apprentices pay 2*l.* 16s. 6d.) Assistant-surgeons in the navy, having previously obtained certificates from the College, pay 2*l.* 11s. 6d. Surgeons in the navy, having obtained certificates from the College, pay 15s. 6d.

For the certificate of qualification to act as assistant-surgeon in the navy, candidates not having paid for any previous qualification pay 4*l.* 19s. 6d.

For the certificate of qualification to act as full surgeon in the navy, assistant-surgeons who have already obtained certificates from the College pay 3*l.* 18s. 6d., and those who have previously obtained the diploma of the College pay 2*l.* 17s. 6d.

FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

Regulations for the Surgical Diploma.—The Faculty recommend that candidates should attend elementary courses of study in mathematics and natural philosophy. These branches, however, are not imperative. Every candidate's knowledge in Latin should be tested at his examination, by being required to construe some part of Gregory's "Conspectus Medicinæ Theoreticæ."

Curriculum.—Anatomy, two courses of six months. Practical anatomy, one course of six months; enacted 7th June, 1830. Surgery, two

(a) The only lectures excepted from this law are those on mechanical philosophy and on chemistry. The former may be Professors in universities, lecturers in public institutions, or teachers specially recognised by the College; and the latter may be persons not medical, if recognised by the College on special application, in conformity with a resolution of the College on the 25th October, 1838. In all cases of special recognitions, proof of capability, and of the applicant possessing the requisite apparatus for illustrating his lectures, will be required.

courses of six months. Chemistry, one course of six months. Practical chemistry, one course of three months; enacted 8th November, 1831. Theory of medicine, one course of six months. Practice of medicine, one course of six months. Materia Medica, one course of six months. Midwifery, one course of six months. Clinical medicine, one course of six months; enacted 7th June, 1830. Clinical surgery, one course of six months; enacted 7th June, 1830. Medical jurisprudence and police, one course of six months; enacted 4th April, 1841. Botany, one course of three months; enacted 3rd February, 1834. A public hospital, eighteen months; enacted 3rd February, 1834. A surgeon's or apothecary's shop, six months; enacted 3rd February, 1834.

The above lectures must have been delivered by Professors or Lecturers in a University; or by resident members of the Royal Colleges of Physicians or Surgeons respectively of London, Edinburgh, or Dublin; or by means of the Faculty. Every candidate must have been employed in the above course of studies for four winter sessions, or for three winter sessions and two summer sessions, so that the whole period of attendance shall not be less than three years complete. An essay, the subject to be fixed by the examiners, to be written by the candidate, in his own handwriting; and no essay to be submitted for a shorter period than two days. Specimens of bones, or other anatomical or surgical preparations, or specimens from the materia medica, shall be used at the discretion of the Examiners. The fee of seven guineas shall be deposited with the President previous to the examination, and, at the same time, satisfactory documents shall be produced that the above curriculum of education has been duly completed by certified attendance.

N.B. Those branches whose dates are specified are not required by those students who commenced their studies anterior to these enactments. The commencement of education is ascertained by the date of the first ticket.

The fees for the diploma are 7*l.* 7*s.* The President, Visiter, Collector, Box-masters, and Seal-keeper, form, along with the Assistant-Examiners, the examining Court. The diploma of the Faculty is recognised by all the licensing bodies in the three kingdoms, and by the Poor-law Commissioners in England and Ireland.

IRELAND.

UNIVERSITY OF DUBLIN (TRINITY COLLEGE). 1591.

Chancellor, His Majesty the King of Hanover; *Vice-Chancellor*, His Grace the Lord Primate of Ireland; *Provost*, Dr. Sadleir.

The days of graduation are, Shrove Tuesday, and the first Tuesday in July. The degree of bachelor of medicine may be obtained in two modes:—

1. Graduates in arts can obtain the degree at any of the half yearly periods of graduation, provided the requisite medical education and examination shall have been accomplished. Fee for entrance, 16*l.*; fees for study in arts during four years, 7*l.* 10*s.* each half year; fees for graduation in arts, 8*l.* 17*s.* 6*d.*

2. Candidates are admissible to the degree of M.B., without previous graduation in arts, at the end of five years from the July following the Hilary examination of the first undergraduate year, provided the usual education and examinations in arts for the first two years of the undergraduate course shall have been completed, as also the medical education and examinations, as in the case of other candidates. Fees for two years' study in arts (besides the usual entrance payment of 16*l.*) are 7*l.* 10*s.* each half year. The graduation fees for the degree of bachelor of medicine are 11*l.* 15*s.* The standing of the first undergraduate year may be obtained by attending the October examination of that year, if the student has entered not later than the first Monday of the July of the same year, and has completed the payments due since the ordinary period of entrance in the preceding November. The medical education of a Bachelor of Medicine comprises attendance on the following courses of lectures in the school of physic established by Act of Parliament, provided that one, and not more than three, of the courses which begin in November be attended during each of four sessions. Three of these courses, at the discretion of the candidate, may be attended at the University of Edinburgh. The courses are—on anatomy and surgery, chemistry, botany, materia medica and pharmacy, institutes of medicine, practice of medicine, midwifery (by the Professor to the College of Physicians), clinical lectures at Sir Patrick Dun's Hospital, during at least one session (six months), as delivered by the Professors in the school of physic; the attendance on such clinical lectures by the Professors to be extended to three additional months of a summer session commencing in May. This regulation to affect all students commencing their medical studies after 17th July, 1841, and to be in lieu of attendance on the hospital from 1st May to the 1st November following. The fees for attendance on the clinical lectures are 3*l.* 3*s.* to the Professors for each three months' attendance, and (provided the student be of two years' standing in the University) 3*l.* 3*s.* to the Treasurer of the Hospital for the first year, with a proportionate sum for any longer period. The fee for each of the other courses is 4*l.* 4*s.* The Examinations are conducted by the Regius Professors of Physic of the University, the six Professors of the School of Physic, and the Professor of Midwifery to the King and Queen's College of Physicians. No further examination is requisite for the degree of Doctor of Medicine, which may be taken at the expiration of three years from having taken the degree of M.B., provided the candidate shall have graduated in arts. The fees for the Degree of Doctor of Medicine are 22*l.* The Degrees are publicly conferred by the Vice-Chancellor, in the Senate or Congregation of the University.

College Terms.

Hilary begins	January 10,	ends	March 25.
Trinity ,,	April 15,	,,	June 30.
Michaelmas	October 10,	,,	December 20.

KING AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND.

Qualifications of Candidates for Licence.—Candidates must produce evidence of having been engaged in the study of Medicine for four years, and of having attended two at least of the required courses in each year. Candidates, except those who have taken a Medical Degree, prior to 1840 must produce certificates of attendance on one or more courses of lectures on the following subjects, each course being of six months' duration, with the exception of botany and forensic medicine, which must include at least fifty lectures:—Anatomy and physiology, chemistry, materia medica and pharmacy, botany, institutes of medicine, practice of medicine, principles and practice of surgery, midwifery, and forensic medicine. The lectures on anatomy, chemistry, botany, materia medica, institutes of medicine, and practice of medicine are required to have been delivered by the respective Professors of the School of Physic in Dublin, or in a University. The lectures on surgery are required to have been delivered on at least three days in the week, during four months, by a Professor of Surgery in a University or College of Physicians or Surgeons in the United Kingdom, or by the Surgeon of a Medico-Chirurgical hospital recognised by the College. These lectures must not form a part of a course of lectures on anatomy. The lectures on midwifery are required to have been delivered by a Professor of Midwifery in a University or College of Physicians or Surgeons in the United Kingdom, or by the master of the Lying-in Hospital, Dublin. The lectures on medical jurisprudence are required to have been delivered by a Professor in a University or College of Physicians or Surgeons in the United Kingdom. Certificates must also be produced of six months' attendance on anatomical demonstrations and dissections, and of at least two years' hospital practice; one year in the hospital of the school of physic in Dublin or Edinburgh, the other in any recognised medico-chirurgical hospital. The certificates must include attendance on the entire practice of the hospital, and on all the clinical lectures delivered in the hospital during such attendance. Candidates who have taken a medical degree in a university shall be admitted to examination upon such degree alone. Every candidate for license, except those who have taken a medical degree prior to 1840, is examined on two separate days: on the first day, on anatomy and physiology, chemistry, botany, materia medica, and pharmacy; and on the second day, on acute and chronic diseases, midwifery, and non-naturals, and on the translating of one or more of the following books from the original Greek, viz.: Hippocrates, Aretæus, and Galen. Graduates in medicine are only required to undergo the second day's examination. The examinations, which are public, are conducted in the English language; but every candidate, except graduates in arts at Oxford, Cambridge, or Dublin, is required to translate medical cases from the English into the Latin language, before he is admitted to examination as to his professional acquirements. Fee for license, 30*l.*

The license of this College is equivalent to a medical degree, and it confers privileges which a degree does not.

The fellows are chosen from the licentiates of three years' standing; they are required by statute (10 Geo. III., cap. lxxxiv., sect. 42) to have taken the degree of M.D. in one of the Universities of Dublin, Oxford, or Cambridge; or to have taken the degree of A.B. in one of these Universities, and to have received the medical education requisite for obtaining the license, for which a degree in medicine is not necessary. Fee to the College on election to the fellowship 20*l.*, with an additional stamp duty of 25*l.*

The Act of Parliament provides that these qualifications may be dispensed with whenever, at any time, the number of fellows is reduced to six.

The College has the power of conferring the honorary fellowship on any of its own licentiates who have not the statutable qualifications; on such of its fellows as resign or vacate the fellowship; d on such eminent medical men, not licentiates, as it may wish to distinguish by its approbation.

ROYAL COLLEGE OF SURGEONS IN IRELAND. (1784—1828).

Bye laws respecting the Registry of Pupils.—Every person requiring to be registered as a pupil on the College books shall be so registered, if he shall have laid before the Court of Censors the following documents, viz.:—

Provided he be an apprentice, and shall have paid any apprentice-fee:—1. A receipt showing he has lodged, to the credit of the President and for the use of the College, in the Bank of Ireland, the registry fee of ten guineas. 2. A receipt showing that the member or licentiate to whom he is indentured has lodged a similar sum of ten guineas. 3. A declaration, subscribed by the member or licentiate to whom he is indentured, stating that he has really and *boná fide* received the usual fee of 150 guineas, or value to that amount. 4. His indenture of apprenticeship, duly executed, and bearing the requisite stamp.

Provided he be an apprentice, and shall not have paid an apprentice-fee, he shall lay before the Court—1. A declaration, subscribed by the member or licentiate to whom he is indentured, that he has not received, or that he does not expect to receive, any apprentice-fee. 2. A receipt, showing that he has lodged, to the credit of the President and for the use of the College, in the Bank of Ireland, the sum of fifty guineas. 3. His indenture of apprenticeship, regularly executed and registered.

Provided he be an apprentice, and be the son, brother, or nephew of the member or licentiate to whom he is indentured, or the son of some other member or licentiate of the College, and shall not have paid an apprentice-fee, he shall lay before the court—1. A declaration, subscribed by the member or licentiate to whom he is indentured, that he has not received, or that he does not expect to receive, any apprentice fee. 2. A receipt, showing that he has lodged, to the credit of the President, and for the use of the College, in the Bank of Ireland, the sum of ten guineas.

Provided he shall not be an apprentice to a

ber or licentiate of the College—1. A receipt, showing that he has lodged, to the credit of the President and for the use of the College, in the Bank of Ireland, the registry fee of ten guineas.

Bye-laws relating to Education and the Qualification of Candidates for Letters Testimonial.—Every registered pupil or apprentice shall be admitted to an examination for letters testimonial, if he shall have proved and showed that his professional education has been, in all respects conformable and agreeable to the provisions and enactments of the bye-laws and rules of the College, and shall have laid before the Court the following documents:—1. A receipt, showing that he has lodged, as a registry fee, the sum of ten guineas in the Bank of Ireland, to the credit of the President and for the use of the College previously to his being admitted to any examination. 2. A receipt, showing that he has lodged a sum of twenty guineas in the Bank of Ireland, to the credit of the President, and for the use of the College previous to his final examination for letters testimonial. 3. A certificate, signed by the President or Vice-President, and two of the Court of Censors that he has passed an examination as to his acquaintance with the Greek and Latin languages. 4. Certificates, showing that he has been engaged in the study of his Profession for not less than four years, three of which shall have been passed in attendance on lectures or Hospitals, during the winter sessions in Dublin, London, Edinburgh, or Glasgow. 5. Certificates of attendance on a surgical hospital where clinical instruction is constantly given, containing fifty patients at least, for a period of not less than twenty-four months. 6. Certificates of attendance on the medical practice of a recognised hospital or dispensary, where clinical instruction is constantly given during twelve months. 7. Certificates of attendance on three courses of lectures on anatomy and physiology, three courses of lectures on the theory and practice of surgery, and of the performance of three courses of dissections, accompanied by demonstrations; also certificates of attendance on two courses of lectures on chemistry, or one course of lectures on general, and one on practical, chemistry, one course of lectures on materia medica; one course of lectures on the practice of medicine; one course of lectures on midwifery, and one course of lectures on medical jurisprudence. 8. A thesis, essay, or dissertation, in Latin or English, on any of the following subjects:—Anatomy, physiology, surgery, the practice of medicine, chemistry, materia medica, midwifery, or medical jurisprudence; or, in the place of such dissertation, a series of cases collected in the hospital in which the candidate has attended, illustrated by comments or observations.

A candidate, being a registered pupil, shall be allowed to pass the first of the two days' examination above mentioned, on anatomy and physiology, on laying before the Court of Censors the following documents:—1. A receipt, showing that he has lodged a sum of ten guineas in the Bank of Ireland, to the credit of the President and for the use of the College. 2. Certificates, showing that he has been engaged in the study of his profession for not less than three winter sessions in Dublin, London, Edinburgh, or Glasgow. 3. Certificates of attendance on three courses of lectures on anatomy and physiology, and of the performance of three courses of dissections, accompanied by demonstrations; such candidate not being admissible to the second day's, or the final examination, on the other subjects above specified, until he shall have lodged a further sum of ten guineas in the Bank of Ireland, to the credit of the President and for the use of the College, and shall have laid before the Court of Censors all the documents enumerated in the bylaws relative to "qualifications for the letters testimonial." Notice of every examination for letters testimonial is posted in the Hall, and the Secretary also, by regular summonses, gives notice of such examination to the members resident in Dublin. The examination takes place in the presence of such members and licentiates as choose to attend. The candidate is examined on two several days in anatomy and physiology, on the practice of medicine and surgery, and on any other branch of medical science, and shall perform such surgical operations or dissections, and explain such anatomical preparations, as the Court may require.

Fee for letters testimonial or diploma, 31*l*. 10*s*. and for admission as member, (which takes place by ballot after three years' standing as a licentiate, and confers corporate rights,) 31*l*. 10*s*.

APOTHECARIES' HALL OF IRELAND. 1791.

Laws Regarding the Education of Apothecaries.—Every candidate must undergo two separate examinations—one for the certificate of apprenticeship, the other for the licence to practise.

Every candidate for the certificate of apprenticeship must have attained the age of fifteen years, and will be examined in the following books?—The works of Sallust; the first six books of the Æneid of Virgil; the Satires and Epistles of Horace; the Greek Testament; the Dialogues of Lucian; the first four books of Homer's Iliad; the first six books of Telemachus, or the History of Charles the Twelfth (in French); the first two books of Euclid and algebra—to simple equations.

Every candidate for the licence to practice as an apothecary must lay before the Court the following documents:—1. The certificate of apprentice. 2. The indenture of apprenticeship, enrolled according to the Act of Parliament, bearing the certificate of the licentiate apothecary to whom he has been indented, that he is of good moral character, and has fulfilled the period of his apprenticeship. 3. Certificates duly signed that he has diligently attended at least one course of lectures on each of the following subjects, delivered at the school of Apothecaries' Hall or at some other school of medicine recognized by the Court (the order of the study here laid down is recommended for the guidance of students):—Chemistry, anatomy, and physiology, six months; practical chemistry and botany, three months; materia medica, demonstrations, and dissections; theory and practice of physic, surgery, midwifery and the diseases of women and children, six months; medical jurisprudence, three months.

A certificate of twelve months' attendance on the entire practice of a medico-chirurgical hospital, recognized by the Court, containing not less than fifty beds, and where clinical instruction is regularly given.

Also, a certificate of having assisted in at least thirty cases of midwifery practice, twenty of which must be attended in a recognized hospital.

The examination for the licence to practise as an apothecary will be as follows:—In translating and explaining the process of the British Pharmacopœias and extemporaneous prescriptions; in chemistry and general physics; in materia medica and therapeutics; in natural history and medical botany; in anatomy and physiology; in the theory and practice of medicine; in midwifery; in medical jurisprudence.

The examination for the licence to act as assistant to an apothecary in compounding and dispensing medicine will be confined to the following subjects:—To translate the Dublin Pharmacopœia, and extemporaneous prescriptions; pharmacy, botany, materia medica, and mechanical philosophy.

The candidate for the assistant's licence may present himself for examination at the termination of five years' apprenticeship.

The Court of Examiners sit every Friday, at two o'clock, and proceed with the examination of candidates in the order in which their names appear on the list.

A rejected Candidate cannot be re-admitted to examination until the expiration of six months, and, after a second rejection, can appeal to be examined by the King and Queen's College of Physicians.

All lecturers are required to furnish the Court of Examiners with a list of such gentlemen as have taken out admission tickets on or before the 1st day of January; also a similar list of those who have obtained certificates of having attended their respective courses, with the number of lectures in each course, on or before the 10th of May, annually.

REGULATIONS OF THE ARMY MEDICAL DEPARTMENT, 13, ST. JAMES'S-PLACE.

A candidate for an Assistant Surgeoncy in the army is required to fill up a blank form of certificate, which may be obtained at the office by written application to the Director General, specifying by whom he is recommended, his Christian and surname at full length, with the course of study he has pursued. The candidate is, in addition, to sign and forward the following declaration:—

"I [Christian and surname at full length] —— years of age, a candidate for employment in the medical department of the army, do hereby attest my readiness to engage for general service, whether at home or abroad, and to proceed on duty immediately on being gazetted. I declare my age not to exceed twenty-six years, that I am unmarried, and that I labour under no mental or constitutional disease, nor physical disability, that can interfere with the most efficient discharge of the duties of a medical officer in any climate." [Signature.]

In selecting from among the candidates for the medical department of the army, a preference is given to those who can fill up all the blanks in the printed form; but the name of no gentleman can be placed on the list who does not possess the diploma of either of the Colleges of Surgeons of London, Edinburgh, or Dublin, and who cannot produce the following testimonials:—Eighteen months' attendance at an hospital of celebrity, where the average number of in patients is not less than one hundred; twenty-four months' anatomy; twelve months' practical anatomy; twelve months' surgery, or (what is preferred) six months' surgery, and six months' military surgery; eight months' clinical surgery, a complete course of two or three lectures during the week; twelve months' practice of physic, or six months of practice of physic, and six months of general pathology; eight months' clinical lectures on ditto, the same as required in surgery; twelve months' chemistry; six months' practical chemistry; three months' botany; four months' materia medica; three months' practical pharmacy, or apprenticeship; five months' natural history; five months' midwifery; five months' natural philosophy.

The candidates must be unmarried, not beyond twenty-six years of age, nor under twenty-one years.

Candidates who have had a university education, and have the degree of A.B. or A.M., as well as that of M.D., will be preferred; but a liberal education, and a competent knowledge of the Greek and Latin languages, are indispensably requisite in every candidate; and the greater the attainments of the candidates in various branches of science, in addition to competent professional knowledge, the more eligible will they be subsequently deemed for promotion in the service; for selections to fill up vacancies will be guided more by reference to such acquirements than to mere seniority. Before promotion from the rank of assistant-surgeon to any higher rank, every gentleman must be prepared for such other examination as may be ordered before a board of medical officers.

Although the British schools are specified, it is to be understood that candidates who have received regular education in approved foreign universities or schools will be admitted to examination.

With the exception of practice of physic and clinical medicine by one teacher, candidates must have attended separate lectures for each branch of the science. The certificate of each teacher of practical anatomy must state the number of subjects or parts dissected by the pupil. Certificates of lectures and attendance must be from physicians or surgeons of the recognised colleges of physicians and surgeons of the United Kingdom, or of foreign universities. A certificate that the candidate is acquainted with the art of cupping is required.

Diplomas, tickets of attendance on lectures, and certificates of regular attendance, by each professor, or lecturer, must be lodged at the office for examination and registry, at least one week before the candidate appears for examination, and likewise certificates of moral conduct and character, one of

them by a clergyman, and that of the parochial minister, are desirable. Baptismal certificates are required at the same time; if the parish register cannot be resorted to, an affidavit from one of the parents, or some person who can attest the fact, will be accepted.

All communications to be forwarded "unsealed," under cover, to "the Right Honourable the Secretary at War," with the words "Army Medical Department" at the corner.

Although, in the examination of candidates, gentlemen are expected to be qualified in every branch of study required, they are requested to be particularly conversant in the knowledge of—1. Tropical diseases, and the diseases to which soldiers are most liable. 2. Military surgery, and works on the habits of soldiers and rules of the service. 3. "Cullen's Nosology," being that adopted in all returns and reports. 4. "Willan's Classification of Cutaneous Diseases." 5. The latest authors on the diseases of the eye. They are expected readily to translate a passage from a Greek or Latin author; to be conversant with Baillie and the later authors on morbid anatomy; with Cullen's, Mason Good's, and Gregory's "Practice of Physic," the latter giving an account of tropical diseases, and those most commonly met with in the army; with the works of Hunter, Hennen, Dr. John Thomson, Guthrie, Samuel Cooper, Millengen, Ballingall, Marshall, and Baron Larrey, on "Military Surgery;" with the works of Chisholm, Bancroft, Lind, Blane, Burnett, Johnstone, and Annesley, on "The Diseases of Warm Climates;" but Baillie's "Morbid Anatomy," Hennen's and Ballingall's "Military Surgery," 3rd edition, with his valuable work on "Medical Topography," Guthrie on "Gunshot Wounds" and on the "Eye," and Gregory's "Practice of Physic," should form part of the baggage of every military surgeon.

Candidates, after passing their examination, will not have any leave of absence granted, but will be stationed at Chatham for two or three months, previously to being gazetted; and on their conduct there will depend their obtaining their commissions. The appointment of army assistant-surgeons rests with the Director-General, by whom the examinations are generally conducted.

NAVAL MEDICAL DEPARTMENT.
ADMIRALTY-OFFICE, SOMERSET HOUSE.

Director-General of the Medical Department of the Navy, Sir William Burnett, M.D., Knt., K.C.H., F.R.S.

Qualifications.—The Right Hon. the Lords Commissioners of the Admiralty having been pleased to direct "that no person be admitted as an assistant-surgeon in the Royal Navy, who shall not produce a certificate from one of the Royal Colleges of Surgeons of London, Edinburgh, or Dublin, of his fitness for that office; nor as a surgeon, unless he shall produce a diploma or certificate from one of the said Royal Colleges, founded on an examination to be passed subsequently to his appointment of assistant surgeon, as to the candidate's fitness for the situation of surgeon in the navy; and, in every case, the candidate producing such certificate or diploma, shall also undergo a further examination before the Director-General of the Medical Department of the Navy, touching his qualifications in all the necessary branches and points of medicine and surgery for each of the steps in the naval medical service," the Inspector-General doth hereby signify, for the information of those persons to whom it may relate, that these regulations and directions will be strictly adhered to; and further, that, previously to the admission of Assistant-Surgeons into the navy, it will be required that they produce proof of having received a preliminary classical education, and that they possess, in particular, a competent knowledge of Latin; also, that they are of good moral character, the certificate of which must be signed by the clergyman of the parish, or by a magistrate of the district. That they have served an apprenticeship, or have been engaged for not less than six months in practical pharmacy. That their age be not less than twenty years, not more than twenty-four, and that they are unmarried. That they have actually attended a hospital in London, Edinburgh, Dublin, Glasgow, or Aberdeen, for two years, after the age of eighteen, in which the average number of patients is not less than 150. That they have been engaged in actual dissections of the human body twelve months; the certificates of which, from the teacher, must state the number of subjects or parts dissected by the candidate. That they have attended lectures, &c., on the following subjects, at established schools of eminence, by physicians or surgeons of the recognised Colleges of Physicians or Surgeons in the United Kingdom, for periods not less than here understated, observing, however, that such lectures will not be admitted if the teacher shall lecture on more than one branch of science, or if the lectures on anatomy, surgery, and medicine be not attended during three distinct winter sessions of six months each:—

Anatomy (or general anatomy, twelve months; and comparative anatomy, six months), eighteen months. Surgery (or general surgery, twelve months; and military surgery, six months), eighteen months. Theory of medicine, six months. Practice of medicine, twelve months. If the lectures on the theory and practice of medicine are given in conjunction, then the period required is eighteen months (six months' lectures on pathology, if given at a university where there may be a professorship on that branch of science, will be admitted in lieu of six months' lectures on the practice of medicine). Clinical lectures, at a hospital as above (or the practice of medicine, six months; and the practice of surgery, six months,) twelve months. Chemistry (or lectures on chemistry, three months; and practical chemistry, three months,) six months. Materia medica, six months. Midwifery (accompanied by certificates stating the number of midwifery cases personally attended,) six months. Botany (or general botany, three months,) six months.

In addition to the tickets for the lectures, certificates must be produced from the Professors, &c., by whom the lectures were given, stating the periods (in months) *actually* attended by the candidates. The time also of actual attendance at a hospital or infirmary must be certified, and the tickets, as well as certificates of attendance, age, moral character, &c., must be produced by the candidate immediately on his being desired to appear for examination.

Although the above are the only qualifications which are absolutely required in candidates for the appointment of assistant-surgeon, a favourable consideration will be given to the cases of those who have obtained the degree of M.D. at either of the Universities of Oxford, Cambridge, Edinburgh, Dublin, Glasgow, or London, or who, by possessing a knowledge of the diseases of the eye, and of any branch of science connected with the profession, such as medical jurisprudence, natural history, natural philosophy, &c., appear to be more peculiarly eligible for admission into the service, observing, however, that lectures on these, or any other subjects, cannot be admitted as compensating for any deficiency in those required by the regulations.

By the rules of the service, no assistant-surgeon can be promoted to the rank of surgeon until he shall have served three years in the former capacity, one year of which must be in a ship actually employed at sea; and it is resolved, that not any diploma or certificate of examination from either of the aforesaid Royal Colleges shall be admitted toward the qualification for surgeon, unless the diploma or certificate shall be obtained on an examination passed after a period of not less than three years' actual service, observing, that no one can be admitted to an examination for surgeon, unless he be a member of one of the above-named Royal Colleges; and whenever Assistant-Surgeons, (already in the service (whose professional education may not be in accordance with the above), obtain leave to study previously to their passing for surgeon, they will be required, on their examination, to produce testimonials of their having availed themselves of the period of leave to complete their education, agreeably to these regulations.

It is also to be observed, that candidates who may be admitted into the naval medical service must serve in whatever ship, &c., they may be appointed to, and that, in the event of their being unable to do so from sea-sickness, their names cannot be continued on the naval medical list, nor can they, of course, be allowed half-pay.

ORDNANCE MEDICAL DEPARTMENT.
68, PALL-MALL.

Regulations for the Admission of Candidates.—Provisional List.—Medical students who have completed their twentieth year, who have been well instructed in the Latin and Greek languages, the elements of mathematics and natural philosophy, and who can produce satisfactory proofs of being of good moral character, and diligent in the study of their profession and the sciences connected with it, may be entered in the provisional list of gentlemen desirous to be admitted candidates for employment in the Ordnance Medical Department. A knowledge also of modern languages, though not indispensable at the time of provisional reception, is highly desirable, and will be duly appreciated.

Candidates.—No applicant is to be received on the list of candidates before he is twenty-two, or retained on it after he is twenty-five years of age. The age of every individual must be verified by a certificate of his baptism, if it can be procured. He must be also unmarried, and in the full enjoyment of health, both bodily and mental.

Qualifications.—Every candidate must produce a diploma from one of the Colleges of Surgeons of London, Edinburgh, or Dublin; and a certificate of qualification from the Society of Apothecaries in London. He must also bring proof of having diligently gone through the following branches of professional education, nearly all of which are required to enable him to take out the above-mentioned diploma and certificate—viz., of having served an apprenticeship of five years to a surgeon and apothecary, if educated in England; but if not, qualification in the practice of medicine and pharmacy equivalent thereto; of having attended the practice of surgery in a recognized hospital or hospitals, where clinical instruction is constantly given, for three years, three months being allowed for a vacation in each year; of having attended the under-mentioned lectures, &c.:—

Anatomical lectures. Ditto—demonstrations. Ditto—dissections	Three anatomical seasons or sessions.
Morbid Anatomy and Pathology	One course.
Lectures on the principles and practice of surgery, delivered in two distinct periods or sessions	Two courses, each comprising seventy lectures, or one course of surgery, and one of military surgery.
Natural history, or comparative anatomy	One course.
Chemistry	One course of a hundred lectures.
Botany	One course.
Materia medica and therapeutics	One course of a hundred lectures.
Lectures on the principles and practice of medicine	Two courses, each 100 lectures; second and third winters.

Medical practice, with clinical lectures, eighteen months, commencing the second session, viz., twelve months in a recognised hospital, and the remaining six months either in a recognised hospital or a dispensary.

Medical jurisprudence, with toxicology	One course of fifty lectures.
Midwifery	Two courses, each of 30 lectures, second and third sessions.
Practical midwifery (not less than thirty cases)	After the conclusion of the first course of midwifery lectures, a certificate of having passed the usual examination is to be produced.
Diseases of the eye — With attendance on patients of that class.	One course.

He must produce a diploma from either of the Colleges in London, Edinburgh, or Dublin, and, if not a graduated M.D. of Scotland or Ireland, after having actually passed an examination in the University where he has obtained his degree, a cer-

tificate of qualification also from the Society of Apothecaries in London. It is likewise expected that candidates shall have attended establishments for the cure of diseases of the ear and skin, and for the treatment of patients affected with mental derangement. Certificates will not be received on more than two branches of science from one and the same lecturer; but anatomy and physiology, demonstrations and dissections, Materia Medica and botany, will be respectively considered one branch of science. In the certificates of attendance on hospital practice, and on lectures, the dates of commencement and termination are to be inserted in words at full length. The moral conduct and character of each individual must be certified by the gentlemen to whose care his education was confided; and also by a clergyman, who, if practicable, should be the incumbent or officiating minister of the parish in which the applicant usually resides. The documents above detailed are to be inspected by a Board, to consist of not less than five medical officers, after which they are to examine the candidate as to his professional acquirements. If his education has been chiefly medical, the examination will be principally in practical surgery; but if surgical, in the theory and practice of physic, including cluding pharmacy. The full qualification being required on admission, a second examination is deemed unnecessary.

EAST INDIA COMPANY'S SERVICE.

Regulations for the admission of medical gentlemen into the East India Company's Service as assistant-surgeons for India.

Age.—The assistant-surgeon must not be under twenty-two years, in proof of which he must produce an extract from the register of the parish in which he was born.

Qualifications in Surgery.—The assistant-surgeon, upon receiving a nomination, will be furnished with a letter to the Court of Examiners of the Royal College of Surgeons, to be examined in surgery, and their certificate will be deemed a satisfactory testimonial of his qualification; but should the assistant-surgeon be previously in possession of a diploma from the Royal College of Surgeons of London, or of the College of Surgeons of Dublin or Edinburgh, or of the College and University of Glasgow, or of the Faculty of Physicians and Surgeons of Glasgow, either of them will be deemed satisfactory as to his knowledge of surgery, without any further examination. He is also required to produce a certificate from the cupper of a public hospital in London, of having acquired and being capable of practising with proper dexterity the art of cupping.

Qualifications in Physic.—The Assistant-Surgeon will also be required to pass an examination by the Company's examining physician in the practice of physic, and to produce satisfactory proof of his having attended at least two courses of lectures on the practice of physic; and, above all, that he should produce a certificate of having attended diligently the practice of the physicians at some general hospital in London for six months.

The Assistant-Surgeon is also required, as a condition to his appointment, to subscribe to the Military or Medical and Medical Retiring Fund at his respective presidency, and also to the Military Orphan Society, if appointed to Bengal.

The Assistant-Surgeon is required, by a resolution of Court of the 21st of May, 1828, to apply at the office for cadets and Assistant-Surgeons for his orders for embarkation, and actually proceed under such orders within three months from the date of being passed and sworn before the Committee for passing military appointments; he will then be furnished with an order to obtain the certificate of his appointment, signed by the Secretary, for which he will pay a fee of 5*l.* in the Secretary's Office.

Assistant-Surgeons who shall fail to apply at the cadet department for their orders within three months from the date of their being passed and sworn before the Committee, or shall not actually proceed under such orders, are considered to have forfeited their appointments, unless special circumstances justify the Court's departure from this regulation.

SYNOPTICAL TABLE OF HOSPITALS AND DISPENSARIES.

PROVINCIAL HOSPITALS, &c.

	Physician Practice.		Surgical Practice.	
Bath Hospital			Dresser and pupil	£26 5
Birmingham General Hospital	18 months	£12 0	3 years	50 0
" Queen's Hospital	12 months	10 10	12 months	16 16
	Perpetual	12 12	Perpetual	21 5
" Lying-in Hospital	3 months	5 5		
Bristol Infirmary	1 year	15 0	1 year	25 0
			Dresser	52 10
" St. Peter's Hospital	"	20 0	1 year	20 0
Bury St. Edmund's—Suffolk General Hospital	In-door pupils £52 10s. per annum.			
Cambridge, Addenbrooke's Hospital	1 year	10 10	1 year	10 10
Devon and Exeter Hospital	1 year	31 10	1 year	31 10
Gloucester Infirmary	"	10 10	"	31 10
Hull General Infirmary	Perpetual, £23.			
Leeds Infirmary	18 months	15 15	2 years	15 0
	Perpetual	21 0	Perpetual	21 0
Liverpool Infirmary	3 years to both	42 0	Dresser, 1 year	21 0
" Northern Hospital	" "	31 10		
Manchester Royal Infirmary	3 years	15 15	3 years	21 0
Newcastle Infirmary	12 months to both £5 5			
Northampton General Infirmary	12 months to both 30 0			
Shrewsbury—Salop Infirmary	12 months to both 21 0			
Sheffield General Infirmary	1 year	10 0	3 years	21 0
Staffordshire General Infirmary	"	5 5	1 year	5 5
Worcester Infirmary			1 year	31 10
York County Hospital	Perpetual	15 15	Perpetual	15 15

HOSPITALS AND DISPENSARIES IN SCOTLAND.

	Medical Practice.	Surgical Practice.
Edinburgh:		
Royal Infirmary	1 year .. £5 7 6	
	Perpetual .. 12 17 0	
Surgical Hospital		3 months .. £3 3
		6 months .. 5 5
Maternity Hospital	6 months £1 3	
Lock Hospital		3 months .. 1 1
Royal Dispensary	1 year £11 11	
New Town Dispensary	6 months 3 5	
Minto House Hospital and Dispensary	Perpetual .. 6 6	
Eye Infirmary	3 months £1 1	
Dispensary	" 1 1	
Glasgow:		
Royal Infirmary	Fee to both for 2 years £7 7	
	Perpetual 8 8	
Aberdeen:		
Royal Infirmary	Perpetual £7 7	

HOSPITALS AND DISPENSARIES IN IRELAND.

	Medical Practice.	Surgical Practice.
Dublin:		
Sir P. Dun's Hospital	12 months .. £10 10	
Meath	Perpetual to both £25 0	
Jervis-street Hospital	12 months .. 10 10	
City of Dublin Hospital	" .. 10 10	
St. Vincent's Hospital	" .. 10 10	
Steeven's Hospital	" .. 13 13	
Mercer's Hospital	" .. 10 10	
Richmond Hospital	" .. 13 13	
Dublin Lying-in Hospital	6 months £10 10	
	In-door pupil .. 21 0	
Anglesey Lying-in Hospital	6 months .. 7 7	
	In-door pupil .. 13 13	
South-Eastern Lying-in Hospital	6 months .. 4 4	
	In-door pupil .. 10 10	
Combe Lying-in Hospital	6 months .. 4 4	
	In-door pupil .. 10 10	
Wellesley Lying-in Hospital	6 months .. 6 6	
	In-door pupil .. 12 12	
Western Lying-in Hospital	6 months .. 6 6	
	In-door pupil .. 12 12	
Victoria Lying-in Hospital	6 months .. 4 4	
	In-door pupil .. 10 10	
Cork:		
North Infirmary	6 months .. £5 5	
	12 months .. 8 8	
South Infirmary	Fees the same.	
Lying-in Hospital	1 year .. £5 5	
Eye Infirmary		1 year .. £2 2
Belfast Hospital	6 months .. £1 1	
	12 months .. 2 2	
Limerick:		
Barrington's Hospital	1 year .. 8 8	
Maryborough:		
Queen's County Infirmary	1 year .. 8 8	

FRANCE.

Paris:	Hôpital Saint Antoine.	Hôpital du Midi.
Hôtel Dieu.	" Cochin.	" de Lourcine.
Hôtel Dieu, Annexe.	" Necker.	Hospital for Children.
Hôpital la Pitié.	" Beaujon.	Clinical Hospital.
" la Charité.	St. Louis.	

These hospitals are free to foreigners on presenting their diplomas or passports, with their medical titles inscribed.

A SESSIONAL SYNOPSIS OF LONDON AND PROVINCIAL MEDICAL SCHOOLS.

	Anatomical Demonstrations.	Anatomy, Descriptive and Surgical.	Structural and General Anatomy and Physiology.	Chemistry.	Materia Medica and Therapeutics.	Theory and Practice of Medicine.	Principles and Practice of Surgery.	Midwifery, and the Diseases of Women and Children.	Botany.	Medical Jurisprudence.	Comparative Anatomy.
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Cholera at Boulogne-sur-Mer.—We are informed that cholera raged at Boulogne with greater violence, taking the population into account, than in any town in France. Notwithstanding the Mayor's late assertion that it was confined solely to the lower classes, we have reason to know that many English visiters in good circumstances fell victims to the disease. Mr. Meridew, the much respected English librarian, died of cholera after five hours' illness; also Mrs. Hussey, the proprietor of the British Hotel, and several inmates of the house, which was immediately closed, and has since passed into other hands. It has often been boasted that neither plague nor pestilence could enter the Hauteville, so healthily situated was that part of Boulogne; and certainly, in 1832, it escaped the invasion of cholera. Last week, however, the charm was broken, for four persons were lying dead of cholera in a house in the Rue de Balance, near the Calais gate. Madame Chevaux-Sier, the wife of the ex mayor, has also died from cholera after a very brief illness; but then her death was attributed to having eaten largely of melon and cucumber. It is remarkable, how interest affects opinion, and how people who have houses to let, and live upon visiters, refuse to believe, or rather deny, that cholera is rife among them, and attribute every death to any but the right cause. The number of deaths in Boulogne from apoplexy and disease of the heart, make those diseases much more common than most men wot of. The indifference, too, of the authorities to the simplest sanitary measures, is, to say the least of it, singular. The river Liane, when full, and the flood-gates closed, forms one of the chief ornaments of the town; but when the water is let out, and its muddy bed exposed to the action of the sun during a long summer day, what ought to be both ornamental and useful is converted into a fertile source of miasma, ague, &c. Still, during the past season, the water has been oftener out than in, and without any other cause being assigned than that of the trouble of letting it in and out; for, unfortunately, the works going on along its banks have been suspended since July for want of funds to carry them on.

We have to repeat our request that gentlemen, when they favour us with communications, will have the candour to inform us, if, at the same time, they have forwarded copies for publication to any of our Contemporaries. Every Editor ought to be allowed to exercise his own judgment as to a Communication being of sufficient value or importance to warrant its appearance simultaneously in more than one Journal. For our part, we claim the right to use our editorial discretion as to the admission of such papers into this Journal; and, the columns of the *Medical Times* will be closed against those who may offend in this matter. Moreover, we would remind whoever it may concern, that the act of sending the same paper to contemporary Journals has a very quackish, and therefore unprofessional appearance; it seems as if the writer sought more to circulate his own name, than to advance science; and, when such a motive influences an author, then, in our opinion, an advertising column of the daily press is the most appropriate medium for his purpose.

Complaints having reached us of the irregular delivery of the MEDICAL TIMES *in the country by the Booksellers and Newsmen, we state, for the information of our readers, that this Journal is always published early on Friday afternoon, so that it may reach the Provinces by post on Saturday morning.*

Correspondents are requested to address their Communications to "The Editor of the MEDICAL TIMES *147, Strand."*

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THE MEDICAL TIMES.

SATURDAY, SEPTEMBER 29, 1849.

THE approach of another Session reminds us of our annual duty; and glad indeed should we be, if any remarks of ours should incite those whom we address to a consideration of theirs.

The occasion suggests many thoughts more or less applicable to the existing state of society, to the demands of the times, and to the altered condition of the Medical Profession—a condition which imposes upon the student severe mental exertion, and an energy and concentration of power, neither exacted nor deemed necessary in years past. Those who have to live by the exercise of their talents, will have in future to contend against no ordinary difficulties. To lessen these, or smooth the path to independence, they must justly appreciate the value of the present moments. To them they are indeed golden. We are not unmindful of the natural feelings of youth—of youth let loose from imaginary thraldom, and thrown inexperienced upon the great Metropolis, with high hopes, with a limited and vague knowledge of mankind, with restless desires, and, too often, with the means of gratifying them. Alas, for the consequences which often follow! Of all these we are fully sensible. It is the knowledge of them which dictates our remarks.

In our early days the career of the student was, for the most part, one of gross dissipation. It never seemed to be contemplated, that the studies entered upon could possibly have any other object than simply the attainment of the privilege to practise. As for any anxiety, industry, or enterprise, to acquire distinction by the variety, accuracy, or extent of professional information, it was scarcely known; nay, he who manifested a disposition to make the most of his opportunities, was subject to no trifling impediments from the generally reckless conduct of his associates. Amusements and sensual indulgences were the order of the day. The theatre, the opera, the fives-court, gambling, and licentiousness, were the places and the mode in which they sacrificed their health and money, and squandered that irretrievable element—Time. Towards the close of the Session, as the grand ordeal approached, by which their *passing*, but not practical efficiency, was to be tested, then came the struggle to get up the necessary knowledge. Of the expedients employed for the purpose we have a lively recollection. Short and ready methods of impressing facts upon the mind, without the slightest regard to the principles connecting them, either in a physiological or pathological point of view, were the means almost universally employed. Then came the trembling and momentous occasion. An assumed diffidence, agitation, and embarrassment, were considerately imagined, by the courteous and indulgent Examiners, to be in keeping with the peculiar position of the student; and this allowed both parties time,—the one gradually to break the ice, and the other to think before he replied. An approximation to truth, in the answers given, was, in those days, no mean merit, and added no little to the claims of the aspirant. If rejected, the examination was an unfair one, and of course the candidate had been most harshly and unjustly treated. There was never any difficulty in finding reasons to explain the result, without dreaming of a want of knowledge. If, however, successful, he returned to his friends, with his high honours blushing thick upon him, and naturally excited their sympathies by the consideration of his uninterrupted and severe exertions. He had got his passport to practise, and that which was supposed to be a guarantee of his ability to exercise his art with marvellous advantage, both to his patients and to himself.

We have no desire to trace him further; nevertheless an analysis of the subsequent steps in his career might be rich in practical instruction. He is at present vividly before us, after the lapse of many years. He soon lost the flashing exterior, the taste and dandyism of a town life. His old habits, however, clung to him. The glass and the social circle had still their attractions, and, the abundance of time at his command, allowed him most freely to indulge in them. The misery of living alone suggested a ready cure, and the results of it were strong and additional demands upon his energies. Fortunate, indeed, if he responded to them by aroused and well directed labours.

But now all these things are changed; and we would have the student of the present day to be sensible of the vast revolution which has taken place in the requirements and condition of society. Competition has not only become an awakening consideration,—and hence the necessity of unabated application in the acquisition of knowledge, but the public at large have become much better judges than formerly of the talents of those whom they employ. The peculiar degree or authority to practise has lost much of its *prestige* and influence. It is the Man—whether of Cambridge or of Oxford; of Edinburgh, London, or of Dublin; Glasgow, St. Andrews, or Aberdeen,—and his recognised and unquestionable talents, that can alone make way. For him, there is always an arena open to his exertions; and, though even he will have trials to meet and difficulties to overcome, he will ultimately surmount them, and dignify the Profession to which he belongs. That even he will have to wait his time is no subject of regret. The probationary period is the most valuable of his life. It permits him gradually to extend his knowledge, and to elaborate and classify his experience; to look at Nature, not through books or systems, but through that medium which alone presents clear, practical truths,—the actual examination of disease. We are disposed to think that men usually get into practice as soon as they are efficiently prepared for its duties.

Though we are far from being inclined to underrate the value of distinctions attained in Medical Schools, as a measure of the talents of those who obtain them, they are, however, no great indications of the fitness of the individuals to enter with advantage on the onerous and embarrassing responsibilities of the Profession. They are the flower of the plant,—and, from its luxuriance, full of high promise,—but the fruit comes at a later season. The sun and the breeze have to play their part before it can be appropriated to any profitable purposes. So it is with the talents of the young and enterprising. We would also further remark, that the extraordinary efforts made to secure these distinctions are not without their drawbacks. They too frequently concentrate the attention to some particular pursuit, to the exclusion of that general survey of the Medical art, which is indispensably necessary to its beneficial exercise. These very clever men are frequently very ignorant at the bed-side of the patient. They have all sorts of knowledge,—save that which a just appreciation of disease requires. Their flourish of principles, and display of varied scientific lore, are often accompanied with a species of contempt of that drudgery and patient toiling after the minutiæ of details, without a familiar acquaintance with which, principles are of little value.

If the attainment of these distinctions or honours narrow or limit the attention to a comparatively small field of inquiry, it is unwise in the student to make the sacrifice. His time can be much more usefully employed in the laboratory, the dissecting-rooms, or the hospital wards. The last should engross his untiring attention. It is here that he has an opportunity of studying disease on a most extensive scale; it is here that he will cull precepts, and enjoy the inestimable advantage of observing the re-

sults of the exercise of his art in the hands of men, whose talents and industry have obtained for them so commanding a position.

Let him not forget the high objects of his Profession, nor the importance of knowledge. The season of study is short, the occasions for improvement many, and on the mode in which he uses them, depend his success and respectability in life. If he flatter himself that success is a species of lottery—a game of chance, and hence a matter of indifference how he prepares himself for the struggle, he labours under a serious error and gross delusion. If he will endeavour to merit the countenance and support of the public, though he must calculate on difficulties, (for these are inherent in the existing state of society,) he will be astonished at the facility with which they may be overcome. *A wise man by his conduct creates good luck. It springs naturally beneath his footsteps. It comes to those who are prepared to appreciate it.*

Good fortune in every pursuit of life is not so much a matter of accident as is generally imagined. A man may receive an unexpected legacy, or may chance to light upon a mine of wealth; but these are the exceptions to the rule. "Conduct is fate." Success depends upon some mental quality; and it does not necessarily follow that it shall be distinguished talent or vast acquirements. It may be persevering industry, and a sedulous waiting for favourable occasions. The mental elements which these imply are essential to success. Were we intimately acquainted with the history of those who start out from among the mass, whether in trade or in any of the walks of the learned Professions, it would be found, that he who acquires wealth or influence—who takes the lead of his neighbours—has brought into action some mental quality which they either do not possess or have not exercised.

It is not unusual to regard with astonishment and envy the supposed good luck of others. We survey their mansion, establishment, or their command of the luxuries of life, as if these had been called into existence by a species of magic, or legerdemain, or spell of potent agency. If we descended a little into particulars—took the pains to analyse the steps by which they had risen—we should discover that very ordinary means had been employed, though not, perhaps, in a common way.

We are anxious to impress these truths upon the minds of the rising generation of practitioners. We would not mislead them, by picturing a smooth and easy path, stretching wide and boundless before them. At the best, it will be a rugged one: beset with difficulties and disheartening influences. But let them take courage, and view these as means necessary to the free development of their energies and their talents. If in doubt as to the best mode of attaining their object, let them studiously examine the circumstances which have promoted the success of those around them. There is seldom any mystery about the source of success. It will probably be traced to the superior abilities, skill, or acquirements of the individuals, the nice honour or propriety of their conduct, or it may possibly arise from untiring and unwearying industry in association with comparatively very humble mental powers. The contemplation of these qualities in actual operation will furnish an inexhaustible lesson of practical wisdom.

We remember the high hopes—the buoyancy of spirits—the unreasonable anticipations, unfruitful calculations, and unfounded data, of our own early career. Time, however, invariably corrects these false estimates. We do not wish to lessen the just value of these qualities, for they have an important use. Without them, it would be impossible to carry on, from day to day, the great struggle of life. Our object is to give them a legitimate direction, and, if possible, to impart to them the sober hue of experience.

The cessation of the labours of the student is too frequently the cessation of study. Books are consulted, but little read. The privilege to practise should not be regarded as an end, but as a means, and as furnishing incitements to further mental exertion. The information which has been forced upon the mind has necessarily brought under observation various departments of knowledge; and some of these, according to the taste or talents of the individual, should claim his especial attention. It should be his aim and ambition to endeavour to dignify the Profession to which he belongs, by the extent or respectability of his attainments. In proportion to the energies so aroused and directed, he brings into the field of competition one of the elements essential to success. It has, however, other relations, far more important to himself. What is existence worth without refined resources of enjoyment? These can spring only from the cultivation of the mind; and he who neglects the opportunity which the leisure of early professional life liberally presents for the acquisition of knowledge, will never cease to regret the misapplication of his time and talents. No exertion will afterwards recover the lost ground. It is gone for ever.

The occasion calls for one other remark. There is a circumstance to which we have not yet alluded, which materially leads to success; viz., a devoted attention to the necessities of the poor. They afford a rich field for the investigation of disease, and seldom fail to lead to a large and lucrative practice. The needy and the wretched are important links in the social circle, and, by a law of our nature, excite an interest and awaken warm sympathies in others more favourably situated. These are to be reached through the miserable hovels and apparently unnoticed sufferings of the poor, and the latter have a claim on the resources of our art, independently of all other circumstances; they have, however, a value, as a means to professional advancement, which is rarely fully estimated by the young practitioner. They are the steps by which alone we can rapidly progress, and he who neglects them, though he may ultimately succeed, it will be with far greater difficulty. We question, moreover, whether the foundation he lays is ever so sound or secure as when it results from the wide and grateful impression left upon the minds of the humbler classes of society.

Let these observations fall as fruitful seeds on the minds of those who are now entering on the severe studies of the Profession. They are prompted by one feeling only:—The desire to guide their efforts and promote their interests, and on the mode in which they discharge their duties will depend their future success and respectability in life.

And now one word in reference to ourselves. We have our duties as public Journalists, and we have endeavoured, to the best of our ability, to discharge them efficiently. An honesty of purpose, a regard to the just claims of all parties, and a sincere desire to promote the true interests of the Profession, are the motives by which we are actuated. Whatever objections may in former years have been alleged against the management of the *Medical Times*, they cannot in any degree be urged since it has fallen into the hands of the present Proprietors. To elevate its character, and enlarge its usefulness, has been their constant study. The greatly increased circulation of the Journal, and the distinguished names which adorn its columns, are acknowledgments, on the part of the Profession, that their exertions have been justly appreciated. The same anxiety, the same liberal and independent line of conduct, swerving from the performance of no duty, will equally distinguish their efforts for the future.

DR. BRITTAN'S CHOLERA VIEWS.

We understand that some interesting, and, possibly, very important microscopic observations on the discharges from the stomach and bowels in cases of Cholera, have been made by Dr. Brittan, of Bristol, a very able and dexterous anatomist. These observations have not yet been made public, but, as a contemporary has referred to them, we see no harm in laying before our readers such particulars as have reached us. When Dr. Brittan has made known his researches, we shall more profitably determine as to their value.

It appears, then, that Dr. Brittan has discovered in the flocculent sediment which exists in the matter vomited and voided per anum in cases of Cholera, (and which has been variously considered to be mucus, fibrine, or another protein compound in a peculiar and as yet undetermined state,) certain organic corpuscles, which both to him and to other observers well versed in such inquiries, appear to be fungi. In their most developed condition these bodies are of some size, that is, are considerably larger than blood corpuscles. They have a well-defined transparent double outline, which occasionally becomes opaque and thickened. The centre is occupied by granular matter or by cells, and has somewhat of a yellowish or brownish hue. The smallest of these bodies are much more minute, and require the highest powers (such as Ross's or Powell's 12th) before they can be satisfactorily made out. They then appear as minute cells, with a clear double outline, and bear a very strong resemblance to the sporidia of fungi. Both kind of cells appear to be spherical, or but slightly flattened, and the transition from the one into the other can be traced with a little care. These bodies are not to be confounded with the granular cells which Dr. Brittan also finds in great numbers.

Did the observation stop here, the discovery of fungi different from the common torulæ, which often form rapidly in cholera stools, and which have been figured and described by Boehm and others, would, no doubt, if confirmed, be highly important. But Dr. Briftan has proceeded further. By causing the air of rooms and districts in which Cholera is prevailing, to pass through a glass tube surrounded by a freezing mixture, he has condensed the atmospheric watery vapour. In this vapour he finds under the microscope, minute spherical bodies, corresponding as far as the eye can determine, most completely with the smallest kinds of the presumed fungous cells, which can be noted in the Cholera dejections. We understand that observers of the highest eminence in this department of Histology, have expressed a decided opinion as to the identity of these bodies.

Such are the very few particulars which have reached us during the last few days in reference to this subject. We have brought them thus prominently forward, in order that, before the Epidemic subsides, they may be submitted to scrutiny by others. The slightest hint which may lead us to a better understanding of this fatal disease ought not to be neglected; and it is an imperative duty on us all to follow up, and submit to the touchstone of observation, any clue which may seem likely to guide us in our search.

At present it would be almost impossible to estimate the exact value of Dr. Brittan's observations. We have first to determine what these bodies are; since, of course, it is by no means certain that they are fungi. But, supposing they *are* fungi, they may merely be products; low cellular forms developed rapidly in the favourable matrix of the cholera stool, just as the little vibriones are, which sometimes can be seen under the microscope moving in shoals in a dejection which has only the moment before been passed from the body. Perhaps the spores of these fungi may exist at all times in impure and contaminated air, and may merely find in the cholera discharges their appropriate blastema. We foresee the greatest difficulty in deciding upon some of these points, and, assuredly, the only accurate method will be, to make at once an inquiry as extended as possible into all the questions connected with the subject. Apart from any investigations into the nature and structure of these bodies, the following points strike us as being preliminary inquiries which must be settled before we can venture even to *surmise* that these fungi are the cause of cholera—1. Are they present in all cholera stools? 2. Are they present in all cholera localities? 3. Are they absent from the discharges in all other diseases? 4. Are they absent in all localities where there is no cholera? If these questions were all answered in the affirmative, we should then have arrived at this point: the presence of a cholera fungus would prove to us the existence of certain causes which produce cholera, in the same way as the presence of the yeast plant proves the action of the causes which produce fermentation. But as the yeast plant is merely an index of the extent of the fermentation, and a token of that complex interchange of elements which, arising as far as we know from deeper forces, produces that torula as one of its necessary results, so also these fungi may be merely the material evidences of those more recondite and subtle forces, which call these elementary germs into life, at the moment while they strike the more complex organisms with death.

We allude to these difficulties for the purpose of calling attention at once to them, and with the hope that some thorough investigation will be set on foot. We do not in the least underrate the importance of Dr. Brittan's researches: we are expressing probably opinions similar to those he himself entertains. Nor do we wish to overlook the fact, that, singularly enough, some observers, as Cowdell and Mitchell, have concluded, from analogical evidence, that the active cause of cholera might be a species of fungus. But we are merely desirous of preventing any hasty conclusions, which, if not based on perfect evidence, cannot but be detrimental to the progress of truth.

Since the above Article was in type, the undigested opinions we anticipated have already commenced to be circulated. Already men, who should be wise, are jumping at conclusions which it is *impossible* they can at present *prove* by evidence. We are truly grieved to find a man of the reputation of Dr. Budd, of Bristol, publishing such a letter as appeared in the Daily *Times* a day or two ago. Whatever may be the truth of the opinions contained in this letter, they cannot at present be otherwise than mere guesses; and if true, can be no more than lucky hits. Whether true or not, what can we think of the logic and philosophy of a man who has ventured to settle the whole pathology of Cholera on the basis of a few imperfect observations? But we shall return to this subject next week, and then further allude to some conclusions in Dr. Budd's letter, which appear to be even irreconcileable with each

PROGRESS OF MEDICAL SCIENCE.

IRELAND.

(From our Dublin Correspondent.)

MEDICAL SCHOOLS AND HOSPITALS OF DUBLIN.

Six medical and surgical schools will, during the session of 1849-50, be opened in the Irish Metropolis. Three of these are under the patronage of corporate bodies, by whom their Professors are elected; namely, the School of Physic, at Trinity College; the School of Surgery, in York-street; and the School of the Apothecaries' Hall, built on the site of the old Dublin theatre, in Cecilia-street, opposite Crow-street. The other three are what are called private schools, being got up exclusively at the expense of the lecturers, who, however, must satisfy the various medical corporations as to education and competency, in order to have their certificates recognised. This recognition has hitherto been too frequently a matter of form; but the Irish College of Surgeons has, of late years, very properly exercised a strict *surveillance* over the capabilities and pretensions of those who assume the responsible functions of professional teachers. Two of these private schools are situate in Peter's-street, and the third in North Brunswick-street. The Park-street School of Medicine, so long distinguished, both on account of the eminent men who have lectured within its walls, and the excellence of its Pathological Museum, will be, in future, discontinued. Of the great men who formerly drew attention to it, some, like the lamented Houston, have paid Nature's last debt; others, such as Graves, Marsh, Cusack, &c., have ceased to lecture; and the remainder, among whom we may mention the names of Stokes, Apjohn, Harte, Jacob, and Wilde, are scattered among other Institutions. The Museum, we are given to understand, is destined for the Queen's College at Belfast.

As there are so many existing Schools of Medicine, it may be imagined that there is a good deal of competition between them in order to attract pupils. The branches lectured on will, in future, be nearly the same in all, inasmuch as a Professor of Surgery is about to be added to the School of Physic, in which Institution this department was formerly conjoined with Anatomy. There is, indeed, a distinct course of lectures delivered at the School of Physic, on the Institutes of Medicine. In the other schools, *physiology* is conjoined with anatomy, and *pathology* with the practice of medicine. This appears to be the most reasonable arrangement; but, as some of the Universities still require separate certificates on the Institutes of Medicine, it is for the convenience of students in Dublin to have the opportunity of taking out such certificates in that city. The other subjects, upon which courses of lectures will be given in the various schools, are—1st. Anatomy and Physiology; 2nd. Surgery; 3rd. Medicine; 4th. Chemistry; 5th. Materia Medica; 6th. Medical Jurisprudence; 7th. Midwifery; 8th. Botany. The fees payable for attendance on these several courses are the same in all the schools, with the exception of the School of Physic. These fees are 3*l*. 3s. for each course, except Anatomy and Surgery, which are 2*l*. 2s. each. All the courses at the School of Physic are 4*l*. 4s. each. The only compensating advantage for these larger fees at the School of Physic is, that the certificates issued from it are recognized by the Universities of Edinburgh, Cambridge, Oxford, and Dublin; a privilege not conceded to the other schools of Dublin; but this advantage is more than neutralized by the non-recognition of school of physic certificates by the Dublin College of Surgeons. These mutual exclusions, the remnants of barbarism, inflict considerable inconveniences upon students, particularly those who intend to practise in Ireland, inasmuch as those who have received their education in an extra-academical school are forced to take out their medical degrees at the London University, Glasgow, St. Andrews, or Aberdeen; while those, on the contrary, who have studied within the walls of the University are compelled to go to London or Edinburgh, if they wish to take out a license to practise surgery.

We have already said that considerable competition exists between the various medical schools; but as the fees are the same in all, this competition is forced to confine itself for the most part to promises of extraordinary advantages, either in assistance to the pupils' studies, or the offer of valuable premiums. We strongly advise students to beware of either of these lures. Dissecting-rooms, illumined by numerous gas-lights, may attract moths who are fond of the glare, and sometimes singe their wings by indulging in this partiality; but they are of very little real use to the student who wishes to learn anatomy. Catechetical examinations, unremitting services of demonstrators, all these are to be regarded as suspicious baits, it may be, intended to divert the attention from important deficiences, such as the want of proper museums, or the existence of unwholesome dissecting rooms, or confined and inconvenient laboratories. And with respect to premiums, we have seldom known a prizeman who was a well-informed physician or surgeon. We do not now allude to premiums for clinical attendance, or for proficiency in any branch of practice, such as the use of the stethoscope, or the art of bandaging; but the prizes given in Medical Schools, we believe to be more frequently gained by the clever tactician, who can detect the pet subjects and peculiarities of the lecturer, than by the really honest-minded and industrious student. Besides, the young man who wishes to acquire an equally extended and practically useful knowledge of the different branches of his profession, cannot be expected to find time to devote himself to any particular department, so as to entitle him to compete for a premium; yet it

must be mortifying, both to himself and his friends to find himself apparently outshone by a fellow-townsman, it may be, who, although perhaps far inferior in general and practical information, is enabled, by a little worldly wisdom and specially applied industry, to parade a prize as the signal of his desert before their mutual acquaintances. Besides the forms of competition alluded to, others less creditable are occasionally resorted to, such as the spreading of *on dits* concerning special recognitions, or other peculiar advantages attached to particular schools. We trust we shall not hear of any trick of this nature being practised during the coming session. On the whole, we recommend the student to be guided in the selection of the school which he would enter, by the characters of the teachers, and by a personal examination of the ways and means of instruction offered to him.

There are seven joint Medical and Surgical, and one purely Medical Hospital open to students in Dublin. The latter, or Sir Patrick Dun's Hospital, is chiefly attended by gentlemen intending to graduate in Medicine at the University. The Meath Hospital—an Institution which has acquired a more than European reputation—contains about 120 beds; a proof that, for the purpose of successful clinical teaching, ability and zeal on the part of the instructors is of greater importance than a wilderness of crowded wards. Dr. Steevens' Hospital contains 200 patients, and is provided with distinct venereal wards. The Richmond, Hardwicke, and Whitworth Hospitals, although distinct buildings, and called by different names, may be regarded as different parts of the same Institution,—one department being for surgical diseases, another for fever, and a third for other medical diseases. This Institution contains 346 beds, and has acquired a deserved reputation from the untiring zeal and industry of the surgeons attached to it. Of the minor hospitals, St. Vincent's is particularly deserving of notice. This charity was established by the Sisters of Charity, an order of Roman Catholic nuns. The building—an enlargement of the noble mansion, formerly the town residence of the Earls of Meath—is situated in Stephen's-green, in a very central part of the city. It is strange to walk up the broad oak stairs, and enter the magnificent rooms and survey the richly stuccoed ceilings, and then reflect that you are within the wards of a hospital. Nothing can exceed the neatness and cleanliness of all the details, and the various arrangements conducive to the comfort and welfare of the patients are carried out with the most scrupulous exactness and regularity under the superintendence of the Sisters. We feel bound to state, that with the fullest opportunities of investigating the working of this establishment, into which patients are admitted without the slightest distinction of creed, we have never observed the slightest attempt at proselytism on the part of the *religeuse*, through whose philanthropy it has been called into existence. The hospital contains eighty beds for medical and surgical cases, and a ward especially devoted to the diseases of children. A very well attended Dispensary is attached to the Institution, which the Medical Officers attend by turns. That these gentlemen will avail themselves of the opportunities thus afforded them, the pages of the *Medical Times* sufficiently testify.

The other Medical and Surgical Hospitals in Dublin, open to Students, are Mercer's, the City of Dublin, and Jervis-street Infirmary; the latter, from its locality, is usually the recipient of cases of severe accident; on this account, especially, it is deserving the attention of the Student. The fees for Hospital attendance vary from twelve to eight guineas per annum.

There are five Lying-in Hospitals in Dublin. The Rotundo Lying-in Hospital is a truly noble building, an ornament to the city, and a lasting memorial of the philanthropy and genius of its founder, Bartholomew Mosse. Great Britain and Ireland may be well proud of the munificent charity displayed by so many of their children. The instances have not been few of men, labouring all their lives in trade and commerce, and devoting the ample fortunes which they had thus realised to the relief of their sick and indigent fellow-creatures. But the conduct of Bartholomew Mosse was unique; he was not a man of fortune,—on the contrary, his efforts in the cause of humanity kept him always in straitened circumstances. It was in the midst of pecuniary difficulties and personal privations, and surrounded by calumnious aspersions and injurious thoughts, that he unceasingly and energetically worked for the one darling object of his heart—the establishment, in his native city, of an asylum for poor women, in the hour of their bitter travail. For this he went for subscriptions from house to house; for this he petitioned and re-petitioned the Irish Parliament; for this he had recourse to every variety of amusement calculated to entrap human vanity and love of pleasure to the side of benevolence; and, although rebuffed, misinterpreted, or condemned by the code of a rigid pharisaism, he, at length, succeeded in establishing the first lying-in hospital in Europe. Honour to his manes. This Institution is governed by a master, elected for seven years. He is permitted to take two assistants, who pay a sum of about 300*l.* for three year's enjoyment of the advantages of the Institution. The assistants live in the house, and either they or the master are always in readiness to assist the student in difficult cases. The wards are visited by the master at a fixed hour every day; courses of lectures on midwifery are delivered every session in the Theatre; there is a special ward for the diseases of women. The fee is 12 guineas.

The minor Lying-in Hospitals depend chiefly for means of instruction on attendance upon the parturient poor at their own residences. The fees are 10*l.* 10s. for intern pupils, and 4*l.* 4s. for extern.

Besides the schools and hospitals which we have mentioned, Dublin presents other and considerable advantages to the medical student. There is a very numerously-attended dispensary for the diseases of children, in Pitt-street; attendance on which may be cured by a small fee, and where much instruction may be acquired. We would also wish particularly to draw attention to the Hospital and Dispensary for Diseases of the Eye and Ear, situated in Mark's-street, and which contains 14 beds, and an average attendance of upwards of 100 out-patients.

Lectures, free to the public, are delivered at the Dublin Royal Society, on natural philosophy, geology, and other subjects.

The meetings of the Pathological, Surgical, and Obstetrical Societies are open to students.

Besides the libraries attached to the College of Surgeons, and some of the hospitals and schools, there is also an excellent medical reading-room in Grafton-street, one of the most central parts of the city.

QUEEN'S COLLEGES IN IRELAND.

As the arrangements of the medical schools connected with these Institutions are not yet completed, and as it is not yet certain to what extent they may be recognised by the licensing bodies, we shall refrain from entering into details that must necessarily be imperfect. We may state, however, that some changes have already taken place in the Professorships. Dr. Carte has resigned the Chair of Anatomy at Belfast; Dr. Carlysle has been appointed in his stead; and Dr. Alcock, hitherto Professor of Anatomy to the Apothecaries' Hall, has been appointed to the College Cork. Dr. O'Meara has also resigned the Chair of Materia Medica in Belfast, and Dr. Stewart has been appointed instead.

A course of lectures on Military Surgery, as required by the Army, Navy, and Ordnance Medical Departments, is annually delivered during the winter Session, by Mr. Tufnell, Surgeon to the Military Prison.

THE CHOLERA AND DR. BRITTAN'S VIEWS.

[To the Editor of the Medical Times.]

SIR,—In this week's Number of the *Medical Gazette* there is an announcement of the discovery, by Dr. Brittan, of Bristol, "of certain peculiar bodies, hitherto undescribed, as a characteristic constituent of cholera evacuations," &c.

In confirmation of the discovery made by Dr Brittan—a discovery on which I cordially congratulate him, while it gratifies me exceedingly, as it appears to promise a demonstration of the views published by me, in my "Disquisition on the Fungous Origin of Cholera," I may be permitted to say, that, in concert with my friend Mr. Curme, of this town, some microscopic investigations have been made into the nature and appearances of the exudations of cholera patients; and that, although our opportunities have hitherto been very limited, they have yielded *positive* results sufficient to encourage a more extended series of examinations.

To avoid the appearance of plagiarism, I think it well, before seeing the publication of Dr. Brittan's observations, to state, that in the clammy sweat accompanying the last stage of collapse in cholera, we have observed minute organised bodies closely resembling other bodies admitted by naturalists and microscopists to have a *protophytic* organization.

I should not have published this immature account of our incomplete investigation; but, with the twofold object of corroborating (it may be) Dr. Brittan's statements, and of vindicating myself from the possible imputation of piracy in anything I may hereafter publish on the subject; and I am, Mr. Editor, yours very obediently,

CHARLES COWDELL,
Physician to the Dorset County Hospital.

Dorchester, Sept. 22, 1849.

[We readily, in the above case, depart from our rule of never *knowingly* inserting in our columns papers or letters that are to appear in contemporary journals. We wish all our correspondents possessed the candour of Dr. Cowdell, and stated, with the communication forwarded to us, that it had also been addressed elsewhere.—ED. *Med. Times.*]

DR. TURLEY ON SALINE TREATMENT OF CHOLERA.

[To the Editor of the Medical Times.]

SIR,—Mr. C. T., aged 47, of robust and rather plethoric frame, was in good health at ten o'clock in the morning. Immediately after this he was seized with pain and cramps in the stomach and bowels; these soon extended to the limbs, so that the knees were drawn up to the shoulders, and the nails were nearly driven into the palms of the hands; he vomited his breakfast, and everything given for relief returned. A relative, a chemist, gave him a draught with aromatic confection, and twenty-five drops of laudanum in mint water. This returned, and so did two others such, before I saw him at twelve o'clock. The bowels had been but little moved. I found him on his sofa in a state of great prostration—cold clammy skin, bluish cheeks and mouth, hands blue, shrivelled and purple nails, pulse about 40, and very feeble and intermittent. He was prostrated to a great degree, perfectly helpless, and complaining of pain at the præcordia. I gave him a teaspoonful of common salt, and half that quantity of carbonate of soda in a glass of potass water highly effervescent. This remained and afforded him immediate comfort. In about a quarter of an hour I gave him in the same vehicle one of the powders of Dr. Stevens. He expressed himself better, re-action commenced; no cramps since the first powder; the face appeared more natural. We got him to bed, using every means to keep the body warm, and he became com-
ulse fuller an
doses of the powders in the course of the day, and a little gruel when he wished it, was all he had. He became restless and peevish in the night, and got no sleep. He was sleepless for three nights. Some mild aperient, after a little blue pill, left him well in a few days.

Remarks.—The sudden occurrence of the choleraic blueness in this case is worthy of notice. The cramps and sickness left after the first dose of salines. Warmth and proper colour supervened on the second dose gradually. Cholera had been rife in Worcester, but had declined considerably before Mr. T. became ill.

I am, Sir, &c.,
E. A. TURLEY, M.D.

Worcester.

MEDICAL NEWS.

Apothecaries' Hall.—Names of gentlemen who passed their Examination in the science and practice of medicine, and received Certificates to practise, on Thursday, September 20th, 1849:—Thomas Costerton, Great Yarmouth, Norfolk; Samuel Montgomery Charles Alfred Anderson Smith; Robert Clarke, Farnworth.

Obituary.—On the 8th instant, at Wisbeach, John Rose Weatherhead, Esq., surgeon, deeply lamented by a large circle of fri nds.—On the 14th instant, at Newport, Salop, Robert Higgins, Esq., surgeon, aged 77, in which town he practised for upwards of half a century.

War Office, September 25.- 1st Regiment of Foot—Acting Assist.-Surg. George William Peake, to be Assist.-Surg., vice Barron, promoted on the Staff. 72nd Foot—Acting Assist.-Surg. Daniel John Doherty to be Assist.-Surg., vice Horniblow, appointed to the Staff. 91st Foot—Assist.-Surg. Francis Reid, M.D., from the Staff, to be Surg., vice Power, deceased. Hospital Staff—Assist.-Surg. Luke Barron, M.D., from the 1st Foot, to be Staff-Surg. of Second Class, vice Hardy, deceased. Assist.-Surg. George Horniblow, M D., from the 72nd Foot, to be Assist.-Surg. to the Forces, vice Reid, promoted in the 91st Foot.

University College.—It affords us infinite gratification to inform our readers that we shall be enabled, through the politeness of its Author, to lay before them a corrected copy of the able Professor of Medicines' Lecture Introductory to the commencement of the Winter Session at University College.

Dentist to Christ's Hospital.—The office of Dentist to Christ's Hospital, vacant by the death of Mr. Fox, has been filled by the appointment of Mr. Tracy, of St. Bartholomew's Hospital.

Derbyshire General Infirmary.—A special general meeting of the Governors of this excellent Institution was held yesterday, for the purpose of electing a surgeon, in the room of John Wright, Esq., resigned. The High Sheriff, Mr. Jedediah Strutt, then proposed, and Mr. Eaton Mousley seconded, the nomination of Mr. Henry Francis Gisborne, as a gentleman well qualified to fill the vacant office. The Rev. E. H. Abney proposed, and Francis Wright, Esq., of Osmaston Manor, seconded, the nomination of Mr. S. W. Fearn. William Leaper Newton, Esq., proposed, and F. Hurt, jun., Esq., seconded, the nomination of Mr. S. H. Evans. A ballot was then taken, the scrutineers being William Eaton Mousley, Esq., for Mr. Gisborne; Mr. Burroughs for Mr. S.W. Fearn; the Rev. R. M. Hope for Mr. S H. Evans. The ballot was closed at four o'clock, when the chairman announced the numbers as follows:—For Mr. Gisborne, 134; Mr. S. W. Fearn, 55; Mr. S. H. Evans, 37. The Chairman then declared Mr. Gisborne duly elected.

New Lunatic Asylum at Bristol.—The Commissioners in Lunacy have called upon the Secretary of State to put in force the clauses of an Act of Parliament, empowering him to order the erection of a new asylum for the pauper lunatics of Bristol. It is said that the cost of such an asylum as the Commissioners contemplate will not be less than 50,000*l*.

We are happy to say, that the cholera, in most of the Provincial towns, is on the decline.

Sanitary Condition of the City of London.—In the Report of Mr. Simon, the Medical Officer of Health, on Tuesday, to the Commissioners of Sewers, he submitted a schedule of complaints, 128 in number, made to him, on the preceding day, by various Medical Practitioners of the city. Many of the matters complained of were such as must exert a most destructive influence upon the health of the population, and the complainants stated, that they had frequently addressed the Court relative to the subject of these grievances. There were thirteen instances of overcrowding given, against which no remedy could be found without the assistance of the Board of Guardians. He cited two cases only:—No. 48, Halfmoon-street, a filthy, stinking, ill-ventilated pest-house, in which fourteen families were collected, and from which fever was never absent; No. 4, Hartshorn court, where, in the midst of cholera and diarrhœa, nine persons were inhabiting a single small and stinking room. Eighteen instances of extreme non-ventilation were given; and there again sanitary improvement must be considered unobtainable while the admission of light and air in quantities requisite for health would subject the unfortunate inhabitants to the grievance of a double window-tax. Upwards of sixty cases were cited in which, notwithstanding all the Court, and the police, and the assistant-inspectors had done, the odious conditions of houses, cesspools, privies, &c., remained without remedy—cases each of which would require to be accounted for by those who were responsible for the enforcement of their orders in the several localities complained of, and he again most earnestly advocated the importance of all the powers of the Act of Parliament being directed unflinchingly against those owners of property in the city who persisted in maintaining the most active causes of disease in the midst of a population which the Court had undertaken to make healthy. Many instances were given of gross neglect of duty upon the part of the scavengers, and two in particular were cited in which refusal had been made by the scavengers to fulfil the terms of their contract without a bribe. Gully-holes were complained of in three instances, and in one case it was stated that a Petition had been fruitlessly addressed to the Court by several inhabitants of the vicinity of Bow-lane. Other nuisances were complained of in fifteen instances. Seventeen complaints were made on the subject of defective water supply, and one of them extended to the whole district of Bishopsgate. That the supply was uncertain and insufficient; that there had been no water for a week, for three weeks; that water was only turned on for half an hour at a time, were statements which occurred under that head, and which required prompt attention. The information was supplied exclusively by members of the Medical Profession, who were employed in three several districts in the treatment of disease, and who considered the circumstances to be essential causes of sickness and death among their patients. The Report concluded by stating, that the list of districts complained of included those in which, during the last three months, the largest mortality had occurred from epidemic causes, and where, consequently, the vigilance of the inspectors and the police might have been most usefully employed.

The Cholera in Dublin.—There has not been since Saturday a single fatal case reported. It is not, however, to be inferred from this, that the pestilence has suddenly disappeared altogether, but there are symptoms which medical men are disposed to regard as favourable to the latter supposition, namely, the gradual re appearance of the ordinary maladies incidental to this particular season of the year, such as colds, rheumatisms, &c. It has been the subject of remark, that since the first outbreak of the cholera in Dublin all other diseases to which flesh is heir seemed to have vanished, leaving, as it were, a clear field for the ravages of the terrible enemy. A like phenomenon was observed in the year 1832.

The Cholera in Paris.—*The Gazette des Hôpitaux* announces the still further decrease of the cholera and diarrhœa even beyond what had been anticipated. On Thursday and Friday week the number of cases in the civil hospitals were only 16 from the former, and 17 the latter; while the deaths on Thursday were 13, and on Friday only 7. In private houses the deaths were, on Wednesday 21, and on Thursday 18.

Cholera in France.—It is stated, that, in certain parts of the department of the Haut-Rhin, the terror excited by the cholera was so great, that for several days no one would venture to approach a person affected with the malady, nor aid in carrying the dead to the burial-ground; and the prefect of the department was obliged to call to his assistance the attendants of the military hospitals to perform those offices. A curious case lately occurred at St. Maurice. A young man, nineteen years of age, was attacked with cholera at five o'clock in the morning of the 8th. From that hour until ten o'clock the following morning, he drank 44 litres of water, four litres of red wine, and two large cups of curdled milk. The same night he was completely out of danger, and recovered.

Cholera Inoculation.—A surgeon at Marseilles proposes to inoculate for cholera; we are not, however, informed of the method he proposes to pursue. He has applied to the Government for permission to experiment upon a prisoner condemned for life to the galleys, and whom he proposes shall be set at liberty if he survive the operation. We need scarcely remark upon the absurdity of the proposal.

Cholera and the Plague.—The present epidemic in London seems to have carried off, on an average 150 persons per day, that is to say, about 1 in 10,000 inhabitants. Far higher, however, was the mortality of the plague of 1664, the official returns giving a mortality, from the 22nd of August to the 26th of September, of 38,195! and of this number one-third died in one week.

Worthy of Imitation.—It is proposed in France that the names of the medical men and students who have fallen victims to their attendance upon cholera patients, should be inscribed upon a marble tablet and placed in the Musée Dupuytren.

Invalid Chair.—We wish our London readers would call at Messrs. Brown, Brothers, 117, Jermyn-street, and inspect a chair they have just patented, and admirably suited for an invalid, as well as for lounging. It is so constructed that it applies itself to any position of the body, and strongly supports the loins and hollow of the back. It is, moreover, very portable and very cheap.

MORTALITY TABLE,

(Metropolis.)

For the Week ending Saturday, Sept. 22, 1849.

Causes of Death.	Total.	Average of Five Summers.
All Causes	1981	1008
Specified Causes	1965	1005
Zymotic (or Epidemic, Endemic, and Contagious) Diseases	1291	302
Sporadic Diseases:		
Dropsy, Cancer and other Diseases of uncertain or variable seat	32	44
Tubercular Diseases	163	190
Diseases of the brain, Spinal Marrow, Nerves, and Senses	132	119
Diseases of the Heart and Blood-vessels	34	29
Diseases of the Lungs, and of the other Organs of Respiration	97	81
Diseases of the Stomach, Liver, and other Organs of Digestion	52	76
Diseases of the Kidneys, &c.	11	11
Childbirth, Diseases of the Uterus, &c.	11	7
Rheumatism, Diseases of the Bones, Joints, &c.	9	7
Diseases of the Skin, Cellular Tissue, &c.	1	2
Malformations	3	3
Premature Birth and Debility	20	22
Atrophy	42	25
Age	52	43
Sudden	3	8
Violence, Privation, Cold, and Intemperance	12	36
Causes not Specified	16	3

The following is the number of Deaths occurring from some of the more important special causes:—

Apoplexy......	30	Heart	29	Phthisis	106
Bronchitis ...	33	Hooping cough	27	Pneumonia ...	48
Cholera.........	839	Hydrocephalus	27	Scarlatina	41
Childbirth	9	Influenza	1	Small-pox	5
Convulsions...	43	Liver	14	Stomach	9
Diarrhœa	238	Lungs	5	Teething	6
Dropsy	15	Measles	19	Typhus	73
Erysipelas ...	1	Paralysis	16	Uterus	2

BIRTHS AND DEATHS.

	Births.	Deaths.	Deaths over Births.
Males	711	918	177
Females	659	1063	404
Total......	1400.	1981	581

METEOROLOGY OF THE WEEK.

Day.	Mean of Barometer.	Mean of Thermometer. Dry.	Ditto. Dew Point.	Difference between the Mean Temperature of the day and the same day on an average of 7 years.	General Direction of Wind. A.M.	General Direction of Wind. P.M.	Amount of Horizontal Movement of the Air. Miles.	Rain in Inches.	Electricity.*
Sunday	30·038	60·3	49·7	+ 1·6	S.	Calm.	15	0·00	Nothing shown.
Monday	30·188	56·3	43·4	— 1·8	N.N.E.	N.	20	0·00	P. and tension variable.
Tuesday......	30·246	51·0	38·0	— 6·7	N.	N.	30	0·00	Nothing shown.
Wednesday.	30·343	54·8	43·2	— 2·2	N.	N. by E.	40	0·00	P. and tension variable.
Thursday ...	30·258	52·8	41·6	— 3·5	N. by E.	N.	55	0·00	P. and tension strong at 9 a.m.
Friday	30·052	54·9	50·1	— 0·6	N.E.	N.E.	55	0·11	Nothing shown.
Saturday ...	29·963	59·7	51·4	+ 4·9	E.N.E.	N.E.	120	0·00	P. and tension variable.
Means ...	30·155	55·7	45·3	— 1·2	N.E.		SUM 335	SUM 0·11	

* In this Column, A. stands for Active; N. for Negative; and P. for Positive.

TO CORRESPONDENTS.

"Dr. James Arnott."—We had prepared a reply to Dr. James Arnott's complaint, that we do not see sufficient cause for believing in the value of his proposal to treat cholera by benumbing cold. It must, however, stand over until next week, even although he charges us with ungentlemanly and undignified conduct.

"Dr. Dickson."—We can well imagine the delight and self-glorification of the author of the "Fallacies of the Faculty" when he made the notable discovery that the opinions of the "Medical Times" had borrowed from him some of their tone and colouring. But, alas! there is nothing new under the sun; and when we offered the suggestion that epidemic diseases might depend upon electrical influences, we only repeated an old proposition, and one that had been made long before Dr. Dickson deserted the broad path of the Profession, and took to more devious ways. When we next write upon the "Philosophy of Epidemics" we may allude to Dr. Dickson and his letter. In the meantime, if he is really in earnest about publishing it in our advertising columns, we do not object, but he must address himself to the commercial department of the "Medical Times" on the subject.

"B. An Annual Subscriber."—The term is employed to designate a simple bowel complaint.

"Mr. F. C. Howard, Linton.—We fear our correspondent would have to bear the expense."

"J. D., M.D. Edin."—The License of the Apothecaries' Company will give a legal qualification to practise in England.

"Medicus Junius" will find all the information he needs on Medical Education in the present Number.

"B." is thanked for his communication.

"Mr. John Davis, Galway."—(1) No doubt the oil is taken up to a certain extent by the absorbents. (2) The effects are not so powerful as when administered internally. (3) The alteration of colour is probably due to the metallic oxides.

"R."—(1) The Work will be brought to a close in the present volume. (2) Mr. Churchill, Princes-street, Soho.

"A Subscriber."—No difficulty whatever, with good proofs that the person had prescribed and compounded medicines for a patient.

A Correspondent, who signs himself "A Member of the Sydenham Society," informs us, that Dr. Greenhill is now translating the lost books of Galen from an Arabic M.S., found two years ago in the Bodleian Library, and that ptyalism is often produced by prussic acid and the preparations of iodine.

Erratum in Dr. Arnott's letter on the "Remedial Action of Intense Cold, in the "Medical Times," September 15. In third paragraph, for "chin" read "skin."

Owing to press of matter we are compelled to omit several very valuable communications, and among others, those from Dr. Aldis, Dr. Richardson, Dr. Drury, A London Physician, &c.

ORIGINAL LECTURES.

ON THE

LOGICAL APPLICATIONS OF PHYSIOLOGY TO PATHOLOGY.

A LECTURE

INTRODUCTORY TO THE COURSE ON

THE PRINCIPLES AND PRACTICE OF MEDICINE.

Delivered by Professor WALSHE, M.D., at University College, London, October 1, 1849.

GENTLEMEN,—On the occasion of appearing before you for the first time, as your instructor in the Theory and Practice of Medicine, it would seem not only natural, but almost imperative, that I should explain to you the views which I entertain of the just and appropriate basis of that theory and that practice. It would, for several reasons, have been well, could I have entered fully into an explanation of the kind; and, forced as I am by limitation of time to relinquish the idea of even an attempt at a complete exposition of the subject, I will still endeavour, at least, to touch upon some fair share of its more prominent points. It will be thus practicable for me to give you, inferentially, an insight into the character of the evidence, and into the mode of using that evidence (especially when derived from certain collateral sciences) which I am disposed to believe essential to the solid establishment of the Science of Pathology, or General Doctrine of Disease.

§ II. Placed conspicuously before you are four Tablets, on which are inscribed the fundamental plans, by which, in the sequence adopted, the science of Pathology is, I conceive, to be *directly and immediately formed.*

I.

CASES OF DISEASE SUBMITTED TO

OBSERVATION,

LEAD TO THE ESTABLISHMENT OF

Individual Pathological Phenomena.

II.

INDIVIDUAL PATHOLOGICAL PHENOMENA

SUBMITTED TO

INTERPRETATION,

LEAD TO THE ESTABLISHMENT (PROVISIONALLY)

OF THE

Nexuses of those Phenomena.

III.

THESE PROVISIONALLY ESTABLISHED NEXUSES,

SUBMITTED TO

NUMERICAL COMPARISON,

ARE JUDGED, AND SO LEAD TO THE ESTABLISHMENT

OF THE

General Laws of Diseases.

IV.

THE GENERAL LAWS OF DISEASES SUBMITTED TO

CLASSIFICATION,

CONSTITUTE

The Science of Pathology.

Hence the intellectual processes by which the Science would be formed, are, successively, Observation, Interpretation, Numerical Comparison, and Classification. And, commencing with individual cases of disease, we should be gradually led to classified laws,—the substance and essence of the science of disease, and the highest generalizations at which human intelligences may legitimately grasp. I need, in truth, scarcely remind you, that in our Science, First Principles are utterly unattainable; for the counterpart of the gravitation of the Natural Philosopher, the Pathologist may sigh in vain.

Now, the prominent characteristic of the scheme for the foundation of Pathology, I here set forth and espouse, is its independence. It recognises facts of its own kind—not only kindred, but identical, in quality—as its sole basis. It makes no provision for the qualification of its laws by, much less for the formation of these laws out of, facts or generalizations belonging to other sciences, be the consanguinity of these sciences ever so close, and, *ex naturâ rerum*, direct. It holds Pathology to be a code of doctrines, founded upon distinct, proper, and special elements—elements whose ultimate adaptation to that code takes place utterly irrespective of *à priori* notions pressed forward by cognate branches of knowledge. It gives Pathology a place as purely self-dependent and distinct, in regard of the means of its *actual establishment as a science* (but of this only), as is held by chemistry, for example, in the sciences of matter. Or, more clearly to particularize, this scheme refuses by implication to recognize as the *true formative material* of the science of Pathology (that is, the sum of classified laws of diseased actions), inferences deducible, prior to experience, from current notions (whether possible, probable, likely, very likely, or certain), held concerning the natural texture and healthy actions of the frame. This scheme denies that physiology (vital, chemical, or physical) is the basis of Pathology, in the sense that acquaintance with the one secures by involution acquaintance with the other. This scheme denies that physiology is the basis of Pathology, in the sense that, given the recognized healthy life of an organ, the consequences of the derangements of that life can by any forms of reasoning, inductive, deductive, analogical, or other, be positively predicated prior to actual experience of their character and habitudes. It affirms, on the contrary, that from the Observation, Interpretation, Numerical Comparison, and Classification of those derangements themselves (collated, of course, with healthy conditions), are their nature and laws alone to be established.

But is not this scheme tainted with heterodoxy? To all seeming it must plead guilty to the charge; it does, in truth, clash with the doctrine *verbally accepted* as part of medical grammar, and repeated from lip to lip, as though constituting a fundamental judgment, against which appeal was neither desirable nor possible. But the habitual repetition of that doctrine does not prove that it accords with the serious conviction of thinking men; for, as a close analyst of human character has aptly observed, "there are certain things which all the world goes on repeating, simply because they have been once said;" (a) and it may be that the apophthegm, "All Pathology is based on Physiology,"—become a household phrase in medical circles—is precisely a proposition of the kind. Now I believe that it actually is a proposition of the kind; and that, if its signification were closely c[illegible]d, its soundness would be generally demurred to. L[illegible] me proceed to justify this view of its character.

§ III. There seem to be three possible ways in which Physiology may be conceived to hold scientific relationship to Pathology. Physiology may be imagined to provide the means of establishing *à priori*, otherwise of predicting, the conditions of Pathology; or it may be supposed capable of explaining pathological relationships, when evolved; or, lastly, it may be considered as supplying a standard of comparison, and as suggestive of plans and measures, observant or experimental, for investigating pathological conditions.

(*a*) As regards the first of these pretensions, the prophetic, I have already intimated my belief in the powerlessness of Physiology. It must, in truth, be admitted that, by its agency alone, we can never advance beyond the simple demonstration of the primary truism, that if healthy action be interrupted, morbid action necessarily ensues, (just as, it might be affirmed, that a watch with a damaged spring will not work, as when that spring was in order;) but the what, the when, the how, the how long, the what for, and the where to, of the new morbid actions, are all matters belonging to the province of experience alone. Let us begin, by way of illustration, with the very simplest pathological phenomena—those in which mechanical function is predominant. Take the instance of a wound in the gall-bladder. We know from Physiology that the gall-bladder is meant to contain bile; and we can certainly logically predict, that if the containing-bag be suddenly pierced, (a), the contained fluid will escape more or less abundantly. But beyond that, our powers of positive prophecy fail; we could not, except as the result of clinical experience, in any wise or in any degree affirm, what the results of the effusion of the bile might be. Take, again, the instance of an aged person, the neck of whose femur suddenly snaps: Physiology might certainly justify us in the positive affirmation, that inability to use the limb for progression would follow the accident; it might by diligent consideration of the precise lines of action of the various connected muscles (admitting this knowledge to be perfect in its way) make a correct assertion, prior to experience, as to the unnatural direction the limb would assume. But all this is merely mechanical; it is the sort of inferential power which would indeed prove Physiology to be the formative basis of Pathology, were man a mere machine. But he is not simply a machine; his femur cannot be broken without vital action being disordered; and the sum total of physiological knowledge could never have established, prior to actual experience, the vital consequences, local and general, of that simple injury. No; scarcely, I affirm, could it have supplied even a solitary link of the great chain of impressions which, originating in the disruption of a few minute nerves, vessels, and bone-lamellæ, may eventually make themselves felt in every fibre and every function of the frame. Again, Physiology would enable us to affirm, prior to actual experience, that if all entry of air into the lungs were suddenly arrested mechanically, death must almost instantaneously ensue. Vital reactions have no opportunity for complicating the problem. But make the obstruction less complete,—make death less instantaneous, and less purely mechanical,—give time for vital force to come into play, and what comes of the physiological gift of prophecy? What physiology could, prior to experience, have taught us the functional differences that ensue, where œdema of the glottis, laryngitis simple or diphtheretic, phthisical, cancerous, or syphilitic, extrinsic pressure from solid tumour or from aneurism, are severally the causes of mechanical obstruction? (b)

No; once vital action steps in, Physiology is

(a) Montesquieu.

(a) If perforation be *slowly* effected, it is almost needless to observe, that even this limited prophetic power is lost.

(b) Illustrations may similarly be taken from the varying effects of sudden mechanical section, and slowly-produced breach of continuity of nerves, and of the spinal cord, &c.

posed. For, to take the most favourable example for the exercise of its faculty in regard of such action,—that of a simple vital property, say, muscular irritability,—let it be granted that Physiology, having thoroughly analysed this property in regard of the quality of its natural stimuli and the phenomena and immediate effects of its healthy action, is in a position to foretell absolutely the direct and essential influences on itself of its exaltation, impairment or perversion; still for all practical purposes of pathological and clinical prophecy, the power will prove abortive and valueless. For in nature muscular irritability is not a condition that suffers alone,—that property is changed in connexion with others; in connexion with innervation, too, and structure; and hence the effects of its perversion vary from those which (on the admission made) could have been anticipated. The clinical coexistences of the perversion are as far beyond the prophetic ken of Physiology, as though this knew naught of the simple property. Besides, the admission made is, in reality, one which the pathologist is not called on to make. On the contrary, the conditions of muscular irritability have not been fully explored by physiology, if trust may be placed in recent pathological inquiries. Physiology, in truth, had not prepared us for the singular circumstance (established, to all appearance, satisfactorily, by numerous and careful experiments on man and the lower animals in a state of disease), that in certain morbid conditions the voluntary muscles will respond to, and act under, the influence of the will, while they refuse to obey the ordinary extrinsic stimuli,—while they remain motionless under the passage of a galvanic current, for example, though the conducting power of the muscular tissue has undergone no impairment. (a) Turn from a vital property to a simple function,—local innervation. The finer nervous filaments are so constantly accompanied by blood-vessels, that it is maintained the nerve and vessel are physiologically but one;—the integrity of the vessel and its contents is essential to the action of the nerve; unless blood flow in healthy proximity and abundance, beside the nerve filament, the action of this is at an end. Yet, look upon that woman, pale, marble-like, inanimate. Naturally possessed of ordinary powers of hearing, she has just chanced to lose some pounds of blood by hæmorrhage,—her life is in imminent danger,—her vessels seem drained of their contents,—a filiform pulse remains alone, to show that a dwindled current still trickles through her artery; yet her hearing is hyper-acute. She, who heard simply like other people, when her blood and nerves stood in natural relationship, is now distinctly, and almost painfully, alive to the slightest whisper at the further end of a large room, when her frame is quasi-bloodless. Could Physiology have predicted this condition of the auditory nerves? Could Physiology have foretold the mysterious influence that saves those nerves from impairment of functional power, (the brain is even anæmiated, for the sufferer is in a constant state of semi-syncope,) amid the general wreck of the vital fluid?

Consider next those varied combinations of altered texture and impaired function, known clinically as morbid processes and diseases. Does the mantle of the prophet belong more rightfully to Physiology in regard of these, than of the simpler phenomena we have just referred to? Think not of the absurdity which seems to lie on the very face of the question,—absurdity because that, which fails in regard of elementary phenomena, can scarcely be expected to succeed, when these are complex in infinite variety and sequence: think not of this, but appeal to the decree of experience. Is there, then, in the whole range of diseases, general, diathetic, and local, one solitary instance whose phenomena and whose pathogeny, from first to last, might have been foretold prior to experience, by any existing, or any fairly conceivable knowledge of Physiology of texture or function? That no such malady exists, from the simplest inflammation to the most complex blood-disease, is so completely a matter of every-day observation, that to illustrate the fact by examples would be an absolute waste of time. Yet, in spite of this, men have occasionally been found to act, as if the process were natural, and easy of execution. Men have actually ventured to fashion (and give names to) diseases, by grouping together morbid phenomena in such union, and in such sequence, as, from physiological considerations, they are led to imagine those phenomena *ought* to arise. In such manner did Cullen produce his description of "synocha," or pure *idiopathic* inflammatory fever, a disease which he acknowledged he had never seen. (a) Yet (such is the weight of authority in Medicine) notwithstanding this acknowledgment; notwithstanding the admission of Cullen's successor, Dr. James Gregory, that, during thirty years, he, too, had never met with synocha; notwithstanding the analogous statement of Dr. T. Bateman, and notwithstanding that clinical experience still looks in vain for the disease, various systematic writers continue to describe this creature of the imagination as an observed and observable reality!

But, further than all this, physiological *à priori* Pathology, finds idolaters who yield it still higher powers,—who assign it the function of announcing, prior to experience, the conditions and effects of various infractions of hygienic rules. Physiology, in other words, has been, and is perpetually, made to teach (what is to the tenth power, perhaps, more difficult) prophetic Ætiology. An example or two will show with what success. Not many years ago, a Committee sat in the House of Commons, for the purpose of inquiring into the effects of factory labour on adult, and especially on infant, health. Medical men were examined in numbers,—men of zeal, of honour, of accomplishment. But they chanced to be physiological ætiologists; they were men who denied the necessity for seeing the localities, watching the mode of working, scrutinising the habits of the workers, and, above all, substantiating the actual condition of the nutrition and innervation—the life—of those concerning the influences of whose occupation on health they were required solemnly to pronounce. Idle toil! They had philosophy and physiological dogmata at command; they knew much about oxygen and carbonic acid, imperfect oxidation of the blood, floating flue, and bronchial irritation, late hours, over-work, imperfect hæmatosis and mal-nutrition. And, armed with such philosophy and such physiology, they went to work. The results are recorded, and what are they? Why the system of man is scarcely exposed to an ailment, that was not, by one or other of the physiological ætiologists announced as an inevitable effect of the pursuit of the species of labour in question. Let me not weary your patience by rehearsing the series. It will answer our purpose to refer to three kinds of affection concerning the necessary frightful prevalence of which all were agreed,—namely, scrofula, deformity of the limbs, and flattening of the plantar arch. The sentence went forth, and was accepted for the time. But by-and-bye men who had actually occasionally seen factory children, and had not noticed the universality of the visitations announced, thought it might be as well to inspect a large body of them carefully, with a special view to the detection of scrofula, deformity of the limbs, and flattening of the plantar arch. Dr. Holme, for instance, (a name which should never be heard within these walls without a feeling of the deepest and most respectful gratitude) examined 401 factory children, and found eight only of them scrofulous. Mr. Harrison passed 1656 in review, without finding a single example of deformed limbs; and Sir David Barry inspected the feet of 111 girls, without stumbling on a single flattened plantar arch. It was absolutely found that the factory population was freer from some of the evils they had been so lavishly accommodated with by the prophetic ætiologists, than the population of the surrounding towns at large.

Let me offer you another illustration. Ramazzini (sound though he generally was, in his judgments) occasionally sinned logically by describing on mere *à priori* physiological grounds the influences of certain trades on health. He erred thus—for instance, in regard of tobacco-workers; and Cadet, Patissier, Percy, Mérat, and many others, followed in his train. Now, among the effects ascribed by these writers to the occupation referred to, appear habitual headache, vertigo, nausea, sneezing, vomiting, colic, and affections of the lungs (asthmatical and other), tremors, narcotism, bloody flux, discolouration of the skin, emaciation, and actual death. Reading these portentous statements (and I have positively put them below the actual mark), might not one suspect that an indictment for homicide fairly lay against men who habitually indulged in the use of snuff and tobacco? Might one not marvel how the existence of these luxuries, as cheap purchaseable commodities, was to be explained? Parent-Duchâtelet arose, and solved the mystery. He examined, either personally or through competent unprejudiced agents, 4518 men employed in the tobacco manufactories of France; and he found, simply, that these men did *not* suffer from nervous ailments, *nor* from chest diseases, *nor* from abdominal complaints, *nor* from emaciation, *nor* from discolouration of the skin, more than the community at large; that, further, their ordinary duration of life was below the usual average—nay, that the dismissal of workmen *in consequence of advanced age* was a frequent occurrence! Ramazzini and his copyists forgot altogether (that which nothing but experience can teach the precise influence and effect of in any particular instance,) the great *law of accommodation or habit.* (a)

(a) It will be seen that reference is made to the recent experiments of M. Duchenne.

(a) Vide Bartlett, on the Fevers of the United States, Pref. p. x. Ed 2.

(a) This law of accommodation is not only systematically kept out of view (or at least neglected) in the consideration of such ætiological questions as those just referred to, but forgotten in the estimation of the influence of already developed morbid states in generating others. I may, perhaps, be permitted to refer for an illustration of the latter point to observations elsewhere made (*Lancet*, March 17, 1849, p. 280,) on the presumed connexion between hypertrophy of the heart and cerebral hæmorrhage. Ought this law of accommodation to be lost sight of, when experience shows that certain morbid states, commonly producing (and originally having produced,) a given set of symptoms, may actually become necessary to their prevention? M. P. Berard removed a portion of a large meningeal tumor from a man, who at the time was perfectly free from symptoms of compression of the brain. The moment the morbid mass was cut away, and pressure thus taken off the brain, the ordinary symptoms of compression came on; nor did they disappear till pressure was made with the hand, so as to imitate that exercised by the morbid growth.

(*b*). Secondly, the pretensions of physiology to explain and connect the phenomena of disease, as actually observed, present themselves for consideration. This is a species of pretension, *primâ facie*, not illogical, and hence more likely to be well-founded, than that we have just dismissed. And it actually is better founded; many of the simpler departures from health, and especially many perversions of single functions, may be plausibly explained by the current notions of physiology: of the latter, Dr. Marshall Hall's beautiful and deeply philosophical system of excito-motory innervation furnishes a striking example. But there is an abrupt limit even to this power. I fear that, in regard of the more complex diseases, physiology is no more an Œdipus, than it, upon inquiry, proved a Cassandra. That physiology cannot explain the whole sequence of events, and relink, throughout the broken chain of necessary and contingent circumstances, of any given disease, is unfortunately the veriest of truisms: still, it enables us, here and there, to seize a causation, and establish a nexus,—no small triumph. We have then, legitimately hope in store for the future. But what seemingly unfathomable mysteries sleep in the depths of that future! Look to the laws of disease, as determined by observation, and (limited as our determination of these, in proportion to their true number, has been) say, what physiology shall penetrate the obscurity that encompasses their being. Glance at the class of virus diseases; what light does physiology throw on the spread of the virus of syphilis, on the order of its secondary and tertiary phenomena, on the special characters of each? What physiology makes clear the reason, why the virus of plague should seize on the lymphatic glands, of typhoid fever on the intestinal glands, of influenza on the organs fed by the pneumo-gastric nerve? What physiology will give demonstrative explanation of the fact, that some morbid changes (as, for instance, calcification of the arteries) affect the body symmetrically? How shall we learn from physiology why blood-diseases, such as cancer and tubercle—(with their, in some sort, prototypes, chronic poisoning by lead, iodine, spurred rye, &c.)—infect some organs rather than others, some parts of those organs rather than the rest of their substance, —why they fix upon one organ at one period of life, and in one sex, and attack other organs at other periods of life, and in the other sex? Can we hope to ascertain, through physiology, why ulcerations of the small intestine are almost absolutely limited, among chronic diseases, to the syphilitic and tuberculous diatheses, while cancers may grow in abundance in the frame, and yet the continuity of that bowel remain unharmed? Why, again, inflammations of continuous textures become limited;—why bronchitis, for instance, except under peculiar circumstances, does not pass into pneumonia;—why rheumatic endocarditis, unless in excessively rare cases, stops short at the sygmoid valves, and affects neither the pulmonary artery nor the aorta;—why general peritonitis is a thing almost unknown? What says physiology of the periodicity of disease —of the nature of constitutional aptitude or predisposition to various maladies? Does it explain very readily why, in a certain proportion of all primiparous women a membraniform plate of bony matter forms between the cranium and dura-mater? But enough; let me not weary you by a multiplicity of such illustrations—their name is Legion. Doubtless, time will give the answers to some of these enigmas; and, doubtless, physiology will, *in the manners to be presently mentioned*, aid in the search for them. But how greatly more necessary to their probable, and how essential to their positive explanation, is the comparison of a large number of accurately observed instances of the diseases themselves. Meanwhile, reflecting upon these mysteries, are we not reminded of the poet's phrase,—"Truth is strange, stranger than fiction"? Yes gentlemen, laws, as observed, are stranger than principles, as imagined; the realities of pathology are stranger than its romance.

(*c*). Thirdly, physiology may be considered as suggestive of points of inquiry in pathology, and as establishing a standard of reference for morbid conditions and processes. Now here are, I believe, the true functions of physiology in regard of pathology; here the field is peculiarly its own, and here the good it may work out is almost incalculable. On some occasions suggesting points altogether novel for the investigation of the pathologist, at others giving a new aspect to facts deemed familiar, and in either case lending zest to inquiry; in this sense it is that advances in physiology must almost of necessity, immediately or more remotely, contribute to advances in pathology. In this sense it is, that he who labours in the former, is sowing seed which, in due season, shall bear fruit in the latter. In this sense it is, that sound physiology promotes sound pathology. In this sense it is, that the hymn to the merits of physiology can neither be too loud nor too long. In this sense it is, that I shall have repeated occasions in the progress of the course to draw your attention to our debts, past and positive, future and probable, to physiological science.

Let me here anticipate with a single illustration it will sufficiently exemplify the manner in which *à priori* and *à posteriori* pathologists severally avail themselves of discoveries in physiology. An acute physiologist, M. Bernard, had been led by experiment to infer, that the production of starch-sugar is constantly going forward in the healthy state in the substance of the liver, quite independently of saccharine or amylaceous diet,—that, in fact, sugar-formation (like bile-formation) is a function of the liver. Subsequently, he discovered that section of the par-vagum immediately arrested this formation of hepatic sugar. Here was materiel to arouse the attention of pathologists. How, if at all, were these announcements applicable to the pathogeny of saccharine diabetes? Certain pathologists of the physiological school have already answered the question. In their eyes the mystery hitherto attached to diabetes is gone;—they argue thus: if sugar be naturally produced in the liver through the influence of the par-vagum, that disease clearly consists in simple excess of a natural secretion, and that excess is as obviously dependent on undue stimulation of, and by, the controling nerve. In a word, saccharine diabetes may henceforth be defined to be a hyper-innervation of the pneumo-gastric nerve. I have heard this said,—statements tantamount to this have been printed. On the other hand, pathologists of the observation school proceed more cautiously; they would say, (granting, of course, that M. Bernard's physiology is sound,) here is a new element of healthy chemico vital acts in its general signification deeply important, and having some probable, or at least possible, connexion with diabetes. Here, too, is evidence of the necessity, in all cases of that disease, for the clinical consideration of the pneumo-gastric nerve. But they would not attempt, prior to experience, to draw any positive conclusion as to the part (if any) played by that nerve in generating the malady. They would argue (the healthy influence of the nerve being fully admitted:) it may be, that diabetes depends on hyper-stimulation or perverted action of the nerve; or it may be, that it depends on disease of the connected portions of brain; or it may be, that the undue accumulation of sugar in the blood is a consequence of a primary change in the liver itself, whereby it yields an excess of sugar to a natural amount of nervous influence; or it may be, that the blood circulating in the liver is in such a state as to lend itself with unnatural facility to sugar-formation; or it may be, that the nerve, the liver, and the blood, are natural in regard of the sugar-producing force, but that, from some defect in respiration, the sugar formed is not oxidised in the lungs with sufficient ease and rapidity. They would maintain, that observation alone could decide which, if any, of these hypotheses was correct; and they would regard M. Bernard's results as having furnished a new standard, and suggested a new path of inquiry, but not as having determined the nature of diabetes, prior to experience.

§ IV. If the legitimate application of physiology be thus limited, why, it may be asked, has the attempt to found pathology on physiology, prior to experience, always proved, both with authors and readers, teachers and disciples, so singularly popular? Nine conditions occur to me as having mainly operated in this direction.

An obvious cause of the popularity, the system has uniformly enjoyed, is the fact of its saving trouble. There is, probably, no more laborious intellectual employment in existence, than the effort to work out, by clinical observation and interpretation, the laws of any given disease. It requires a combination of powers of physical and moral endurance and mental capacity rarely meted out to the same individual. Constituted, in truth, as man is, by nature an indolent being, is it to be wondered that when presented with "first principles," whereby he is empowered to fix the origin, course, and issue of diseases; and, independently of direct labour of any kind, but simply through a musing, *dolce far niente*-like exercise of his reasoning faculties, to mould them into such forms as may best suit his purposes,—is it to be wondered, that he seizes with avidity on the complacent instruments, and eschews with determination the severe and rugged toil of direct observation?

But, secondly, not only do these principles save labour to the original investigator, but to the learner. They are a precious and a facile *Memoria Technica*. Few memories can retain an accumulation of generalised facts or laws, no matter how interesting or important they may be, unless by constant exercise and perpetual reference, either simply mental or direct, to the objects referred to by those laws. Here, then, is labour again involved. But, with a supply of physiological "first principles" at command, the dependent facts of pathology string themselves in readiest order; or, if the memory be hopelessly sluggard, the principles are there to reproduce the facts at will. The only drawback is, that as the solidity of the principles, and hence of the facts, owing them paternity, may be questioned, the advantage of readily recalling or reproducing these is more than problematical.

But physiological principles serve, it is argued, as guides, prior to experience, to the determination of unknown pathological conditions; and hence a third source of their popularity. To their *investigation*, yes; to their *determination*, no; observation must intervene. In fact, the argument, though just in foundation, is a sophism in its application. That in a new and difficult path a guide is an desirable thing, is a position, abstractedly stated, which few will dispute. But the utility of any particular guide must, as of all other things, depend on fitness or unfitness for its purpose. Suppose ourselves travelling in a new country, and desirous of ascending a mountain peak, at all times difficult

of approach, but the ascent of which has by land-slips, changed course of torrents and avalanche-falls been recently rendered a new and more complicated problem. Guides present themselves. They may be of three kinds. Men may crave to lead you, who honestly confess they have not been the way since the occurrence of the changes. But they assure you emphatically, that, from their acquaintance with the natural conditions of the mountain passes, the course of the rivers, the tracks by which avalanches *must* fall, and so forth, they can form a complete and perfect notion of the changed conditions they have never seen. They can deduce the possible pathology of the passes from their physiology. You probably pay such persons as these a compliment on their sagacity, (as estimated by themselves,) but decline to place your flesh and bones at their disposal. Or a second group may solicit the honour of conducting you; and, upon inquiry, you learn that these aspirants have not only not explored the altered mountain routes, but have settled among themselves to guide you on a plan that (under circumstances of mountain convulsion, more or less similar) has proved over and over again a fallacious one. You pronounce them to be impostors, and suspect their motives. You feel that the guidance offered by both these groups is shadow, not substance,—that they have made no further advance than yourselves to the desired haven; you feel that in common with yourselves they have the laborious path of experience to tread. But a third group of guides may offer, who, as before, so likewise since the changes, have made the ascent many a time and oft,—men to whom each step almost in the path is by experience familiar. To the superiority of these you bow; to them you confide yourselves in all security; they are guides not alone in name but in reality.

And so in the difficult and untrodden routes of pathology, three classes will propose to guide you in the determination of new conditions. Men who have no experience of the regions in which they purpose to lead, but who believe honestly in the perfect aptitude of a new species of theory to serve in lieu thereof;—men who are not only devoid of that express experience, but who, in defiance of past example and warning, would guide you by a worn out species of theory, to inevitable error;—and men who, having that experience, know the route to truth. And of the former false guides in pathology, or principles prior to experience, those rising with largest and most hopeful promise, have ever set behind the most hopeless failure. Soaring brightly aloft like rockets, they have fallen darkly like their sticks. Archæism, Pneumatism, Animism, Stahlianism, Hoffmanism, Cullenism, Brownism, Contra-stimulism, Broussaisism! Ye guides of the hour; ye blind that led the blind for a season! say, even now, before the personal memory of some of your authors has passed away, say what verdict does posterity pronounce on the quality of your guidance? Alas, posterity is pitiless and stern; it thinks naught of the genius, and ambition, and positive services of your authors,—it simply proclaims that you arrested all progress in true knowledge for the time, and in the quarters your guidance was trusted to!

Fourthly, physiology is very constantly assigned the merit of establishing pathological facts and doctrines, which in reality it has had no share in substantiating. An apt illustration occurs in a recent work, by one of the first physicians of the day, whom I am proud to call my friend, and whose admirable style almost redeems (what appears to me) the oversight in the thought,—as choice setting gives somewhat of the value of the gem to the imitation. He observes:—"Every physiological physician knows well that a morbid condition, which may have been months or years in forming, can only be effectually and permanently removed by means which act slowly and for a length of time, not on one part only, but, more or less, on the whole system." (a) Now, the general doctrine here broached (although exceptions might readily be cited) is in accordance with observation. But, obviously, the credit of establishing that doctrine should be assigned to pathological, not physiological, observers. What physiological facts are known, justifying the assertion, even as a probability, prior to experience, that morbid conditions, slowly built up, can only be slowly thrown down? All that is positively known of the rapidity with which waste and change of tissue are physiologically effected, would rather warrant the expectation of sudden removal of long-existent disordered states being easy of accomplishment, when once the right impulse was given. But pathological observation has proved that (in the present state of therapeutics, at least) the reverse is the rule; while the laws regulating exceptional cases furnish a very curious subject of inquiry.

So, too, it is the habit to class the now popular investigations into the morbid conditions of the blood with physiological researches, though their distinguished re-originator, Andral, gave the hint of their true character in the terms "*Pathological* Hæmatology."

Again, somewhat similarly, a large proportion of experiments on living animals, essentially pathological in their character and aim (as, for instance, those consisting in the injection of various noxious substances into the blood-vessels,) are confounded, under the general name of physiological, with others really deserving this title. Now, the effect of this misnomer is, that when perchance the former class of experiments leads to suggestions available in the direct investigation of disease, physiology, instead of experimental pathology, unfairly receives the credit.

Fifthly. An artifice very commonly resorted to by physiological pathologists, has contributed not a little to throw a false glare of wisdom over their *à priori* modes of divining the conditions of morbid phenomena. From alleged speculative examination of certain groups of physiological facts, they set forth a certain principle of pathological action. The principle created and announced—let us look around, say they, for illustrations; and, behold, these are not long in coming. Who can feel disposed to scrutinise sharply the logical quality of a system that leads to such startling results? Who is not rather disposed to bend the head irreflectively before an intellectual procedure of such seemingly high stamp? Observe what it would signify. A man from the workings of his brain on actions of *one kind* creates principles that must regulate actions of *another kind*,—and finds in the ready illustrations that present themselves, the proof that Nature has precisely the same views on the matter as himself,—that, in other words, he is possessed, *quoad* intellect, of creative faculty. Beautiful and wondrous indeed would the process be, were it only honest and true! But has it these qualities? Divest yourselves of the obsequious spirit of admiration, and assume the cold judgment of the critic, and I fear you will find that it has not. You will, I think, discover that in such cases the real course of proceeding has been this. A single fact has been caught up, of a novel or ill-appreciated kind; that fact has been generalized at once; and this generalization is the putative *à priori* principle, the *quasi*-offspring of a creative faculty. So that, if this anatomy of the pseudo-creation be correct, the whole process resolves itself into elements of the following species: a fact due to observation; an inference from this, belonging to a very vicious class of sophism, the *argumentum à particulari ad universale*; and, lastly, a conversion of this imperfect *à posteriori* inference into a baseless *à priori* principle. Is it not plain that the process sins logically? Does it not strangely remind one too of a sleight-of-hand *coup*,—a sort of intellectual leger-de-main? Quick, presto, it is done,—your fact is a principle!

Sixthly, more crafty still are they who throw off *à priori* applications of physiology to pathology, and look not for illustrations, and care not for acceptance at the moment. Time, they mysteriously hint, will judge them. As the world advances in observed wisdom, facts will come to demonstrate that the Deity has given to some men intuitive prescience. Well, time flows on: the oracles are forgotten. But at length, perchance, some observer, in the course of investigations, wholly without reference to, or knowledge of, the bygone divinations—on grounds completely different, with aids as dissimilar, through philosophy egregiously opposed,—comes to results in some sort according with, or corroborative of, the oracles that have slumbered. Then comes the *cantus triumphalis* of the augur. Behold! I said it—I divined it—years before your dull observation had started even the terms of the problem, my principles had worked out the solution. And with lusty voice the crowd sings chorus. But is this right? Ought the crowd to lend their harmony of praise? Is the seeming merit all real? Is there no artifice here also? Does the crowd remember, did it ever know, the multitude of instances, in which similar divinations have been made, have failed, and have slept the sleep of death? Must not the crowd, when reminded of these, admit that the triumph is signally like that of the professional fortune-teller, who, wrong fifty times, comes right, she knows not why or wherefore, the fifty-first? And lo! a present miracle, exclaims the gentle candidate for a "fair or a dark man;" while the philosopher aside knows that an occasional successful hit is a matter of necessity, the frequency of which may be determined by mathematical calculation. No; it is not he who starts possibilities, or even probabilities, on illogical grounds, but he who by logical inference converts possibilities into certainties (positive or negative) that, unless I deeply err, deserves the homage of his fellows.

Seventhly, people are dazzled by the wondrous, almost miraculous, appearance of progress in pathology, which the direct application of physiological speculation occasionally effects. Chemical physiology, which has of late taken the lead in this point of view, deserves particular notice here. It seems to have taken that lead, first, because one or two chemists (men of singular mental power, and, like the Chemi-Iatrists of old, chemically in advance of their age) gave the impulse; secondly, because it has all the charms of novelty; and, thirdly, a section of pathologists seems to seize upon it, because (singular contradiction!) they are more or less unacquainted with the qualities of its alleged facts. Accepting these facts from others, unconcerned in reputation by the correctness or incorrectness of these facts, blind to the difficulties of their establishment, uncognizant of the host of uncertainties pervading the very atmosphere wherein they originate, this section of pathologists manages these facts (or pseudo-facts) in the

(a) The Physician's Holiday, p. 268. By John Forbes, M.D., &c., &c. A work abounding in varied beauties of thought and expression.

beatitude of innocence; and the man who, as a clinical observer, would hesitate to pronounce positively on the characters of a symptom or a physical morbid change, where any source of fallacy existed, although he had examined it scores of times perhaps, welcomes, as absolute truths, chemical inferences essentially plunged in obscurity and doubt. His conscience is at ease, and away he works. And while no complete or trustworthy analysis of a single morbid product, in accordance even with the nascent organic chemistry of the present day, *exists*; while masses of matter are thrown on one side under the title of extractions, or, as one might baptise them, the "great unknown;" while the very constitution of protein is matter of dispute; while one of the first organic chemists of the age (Dr. Prout) "knows at present of no apparatus or means of operating, capable, where azote is concerned, of unequivocally deciding about the presence or absence of *one proportion* of hydrogen or even of oxygen in a complicated body" (on Stomach, &c., 4th edit., p. 556), and "is satisfied that very few, if any, of the formulæ now so much in fashion with chemists, represent the true constitution of organised substances" (ibid. Preface, p. viii.); while the alkaline reaction of the blood, even, was yesterday referred to one salt, is to-day traced to another, and will to-morrow, in all probability, be affiliated to a third; while we know, that of certain substances entering into the blood by absorption, all chemical traces may be almost instantaneously lost, though, when the same substances are mixed with dead blood without the body, those traces may be readily followed; while all these evidences of imperfection (and they are but a brick of the Babel) stand forth in warning reality, men are found to pretend that pathology is to be based on chemistry, prior to experience, and that the votaries of eclectic observation are to bow to its dictates! Here appear men, who (just as if they asked for a piece of Prussian-blue) will most readily undertake to make pus, or cancer, or tubercle, at a moment's warning from any tissue-detritus or exudation you please,—all they want is the temporary loan of an atom or two of oxygen, or hydrogen, or nitrogen, as the case may be. No, gentlemen, place no confidence in these figments of an overheated fancy. Even if they seem to accord with the results of experience, they are only possibly, not necessarily, just; if they fail to accord with those results, they are necessarily inapplicable for pathological purposes, if not necessarily unsound. Besides, it is not the higher order of chemists, who produce, or encourage the production of these fanciful syntheses. Did *they* profess, that such applications of chemistry were sound and just, it would be hazardous to contest their scientific quality. Still, some chemists of most brilliant repute have promulgated chemical theories of diseases, unchecked by observation; and so given, indirectly, a colour of justification to the wild exploits just referred to. As a single instance, let me offer you Professor Liebig's hyper-oxidation theory of phthisis,—striking, simple, plausible, attractive, in seeming vastly progressive, wanting nothing but the confirmation of clinical observation,—but when submitted to that test found, as is now known, to clash with obvious facts, and therefore (whatever excellence it possesses as a piece of profound chemical inference) inapplicable to, and inadmissible as a portion of, the natural history of disease.

Eighthly, the tendency to found pathology directly on physiology may be traced to the apparent plausibility of the attempt. Physiology studies the actions of the frame in health; pathology studies the actions of the frame in disease. The knowledge of the discords, an instrument is liable to emit, and the modes of correcting these, are matters of direct inference from the knowledge of its concords; and, similarly, pathology must be matter of direct inference from physiology. But, after all, here is nothing more than a specious sophism. Speaking abstractedly, it may be perfectly true, (and absolutely must be so,) that pathological action, no matter how complex, is a derivation from physiological action, simple or complex; but the question is to be considered practically. Now, we have already seen, if the statements of fact I have made be just, how little can actually be ascertained of the laws of disease by this method; and, if you consider, for a moment, what a human being is in his physiological actions, you will hardly wonder that it should be so. Look upon one of the most elementary chemico-vital series of acts we know of—the birth, life, and death of a secreting cell. Consider the myriads of such cells concerned in the production of but a few drops of secretion; conceive them, at their various periods of healthy existence, influencing, as they must, physically, chemically, and vitally, not only the locality they occupy, but (through the blood and nerves) parts more or less remote, and say, what can we predicate with safety of the precise nature of those influences, what of the re-actions which those influences excite? And yet we would presume to lay down, prior to experience, the effects of those influences when deranged,—and not only when one set of such influences, but when multitudes of them, are deranged, —when acts of a complexity beyond conception err, acting, re-acting, advancing, retrograding, yielding, clashing, in endless varieties of confused combination. Alas for him that arrogates here the gift of divination, and fancies he can, through physiology, forejudge the issue of the mishaps of even a single set of secreting cells. Lending himself prescience, he is really no more cognizant of God's providence in this matter, prior to experience, than the sauntering school-boy, who, throwing stones in the stream, dreams not what effects the motion of the ripples he idly watches, as they circle to the bank, produce through the atmosphere of the earth. (a)

Lastly, an impression appears very prevalent that the direct application of physiology (physical, chemical, or vital) to pathology is peculiarly philosophical or "scientific;" while the direct observation and interpretation of the phenomena of disease scarcely possess a claim to that dignified title. Hence a ninth source of the popularity of the former. Louis, for instance, from the sustained critical observation of years, accumulated a series of individual facts, whence he induced a natural history of phthisis, finally establishing that history in regard of the points, and under the circumstances, examined. But he ventured not even on an hypothesis as to the essence and pathogeny of the disease. On the other hand, an eminent chemist, studying the laws of the oxydation of tissue in general, passed through a series of analogical inferences, treated them as if they were established truths, and propounded the theory of the disease already alluded to, without professing ever to have observed it. Now I have repeatedly heard it said that the treatise of Louis had certainly great merit, as a work of observation; but that its author was not a man of science; while the great chemist's science was so profound, so expansive, and so ductile, that he might well dispense with observation. When it was urged, in reply, that the conclusions of Louis were solid and unimpregnable,—time-marks of progress in man's knowledge of disease; while the hypothesis of the great chemist flashed brightly for an hour and was gone, the rejoinder was still the same, heads were shaken, and the chemist was still pronounced, *in regard of this matter*, the man of science.

What, then, is science, and what constitutes a science? I cannot, for my part, conceive a science to be anything more or less than the sum total of the established generalizations belonging to any particular kind of phenomena, classified according to their resemblances and their differences, their alliances and their repulsions; generalizations which, in turn, cannot be formed from any possible data, but from the comparison of accumulated individual phenomena of that kind.(a) It seems logically impossible to imagine any other mode of formation of a science. Now, if this be true, all facts and generalizations belonging to sciences, collateral to that under investigation, no matter how close their relationship, can form no part of itself, as *matter of necessity*. And their direct transference from the one to the other—the attempt to introduce them from the one into the other as *part and parcel of itself prior to experience*—is a flagrant breach of logic,—a proceeding based on the assumption, that, because a thing is possible or likely, it is actual and real. It matters not how perfectly just any given principle is in connexion with facts of its own order, and how fully it answers the conditions of a scientific law,—the moment it is transferred, and applied in the guise of an established principle, to facts of a different, though allied, order, as great a breach of logic is committed (and how can science exist, where logic is wanting?) as if the principle were divested of all claim, in its original position, to scientific character. If this be true, and I think it would be difficult to prove it false, it is he who observes, interprets, compares, and classifies facts and laws of any particular order, and not he who makes direct application of inferences from facts of one order to facts of another order, that is the true labourer in the cause of science. And let it not be supposed that, because physiology (chemical as vital) will advance as time flows on, that its claims or powers to form pathology prior to experience, will ever change. Pathology, too, will advance, both independently, as it hath hitherto done, by pure observation, and, dependently, in company with physiology and the other collateral sciences, through the suggestions they offer, but not through the *à priori* principles they are made to force upon it. The mode of searching after truth can never change; what is real now in the philosophy of establishing a science will be true to all eternity.

To illustrate this argument, and give greater precision to its bearing. Let it be supposed that any given chemical law has been established by observation in regard of certain healthy actions. That law constitutes, henceforth, an element of the science of physiological chemistry. But it may, or may not, hold in regard of those actions when diseased.

(a) I cannot resist the pleasure of justifying this illustration by an extract from the writings of a man who possesses, in the rarest degree, the art of throwing a character of poetry over the profoundest truths of science—the inventor of the Calculating Engine:—"The waves of the air, thus raised, (by the human voice in speaking) perambulate the earth and ocean's surface, and, in less than twenty hours, every atom of its atmosphere takes up the altered movement due to that infinitessimal portion of the primitive motion, which has been conveyed to it through countless channels, and which must continue to influence its path throughout its future existence."—*Babbage; Ninth Bridgewater Treatise*, p. 110.

(a) Reference is of course made especially to *natural* science; but the statement given will, I believe, apply fully to *abstract* science also.

It is for observation to determine this. The physiological law is merely *a candidate for a place* in the science of pathology, to be accorded or denied it by observation. Applied directly from physiology to pathology, it degenerates from a law into an hypothesis; and no hypothesis can ever form actual part of a science. On the other hand, hypotheses are never to be disdained; like servants, of whose character we are doubtful, they are to be taken on trial. Of hypotheses I would say, *accept none; reject none; try all*,—provided only they do not distinctly clash with any absolute law of natural or abstract science. But, in making this admission, I am desirous of not being supposed to imply, that the mere habit of starting loose conjectures is in my mind either useful or commendable. I consider it, on the contrary, a sufficiently vicious practice, diverting men's minds (if it exercise any effect at all) from the true sources of knowledge. It has become very much the habit at the present day, when objections are made to the hap-hazard system of chemico-physiological conjecture, to find them met with observations, something in this wise:—"What, you would denounce hypothesis! you forget, my good sir, that the existence of America was an hypothesis in Columbus's brain, before he proved its truth by experiment." As if every man, who started a conjecture, was, *ergo*, a Columbus; as if every conjecture contained an America! (a)

But, to return;—not only is there in many quarters a tendency to overrate the philosophical quality of direct introductions of the principles of one natural science into another; but a persuasion of the actual and essential inferiority of Observation as an intellectual instrument. One notion, which contributes to this low estimate of observation, is, that the principles of the physico-mathematical sciences were established without its aid, and are in fact either pure mental abstractions or mathematical results. But this is completely erroneous. In physico-mathematical astronomy Observation lies at the root of all acquired truths. "No one can doubt," says Mr. Whewell, "that in historical fact the laws of motion were collected from experience. That such is the case is no matter of conjecture. We know the time, the persons, the circumstances belonging to each step of each discovery." (b) Kepler's laws of planetary motion were primarily not ascertained even by induction, but by simple direct observation. We know from Kepler himself that, "before hitting upon the conception of an ellipse, he tried nineteen other imaginary paths, which, *finding them inconsistent with the observations*, he was obliged to reject."(c) Yet further, even the axioms of geometry are found, in ultimate analysis, to be experimental truths, generalizations from observation. Nay, more, as shown by Mr. Mill, "the science of number is no exception to the conclusion, that the processes even of deductive sciences are altogether inductive, and that their first principles are generalizations from experience. (d)

Rest satisfied, too, gentlemen, that observation is not in our science the humble drudge's toil, which the ante-experience school of Pathologists would persuade you to believe it. It is a sensual and intellectual process of the deepest and most varied

(a) The illustration is otherwise singularly inapt. Columbus was led by a system of inductive reasoning to his wondrous discovery; and had it been possible for him to make the experiment, before announcing the expected result, it is evident he would have done so,—the quality of his intellect was eminently Baconian.

(b) Philosophy of Inductive Sciences, i. p. 238.

(c) Mill's Logic, i. p. 363. (d) Ibid, i. p. 336.

difficulty. Remember (to quote the admirable words of one who has gained a commanding place in the philosophy of abstract science, Mr. Mill) "the observer is not he who merely sees the thing which is before his eyes, but he who sees what parts that thing is composed of. To do this well is a rare talent. One person, from inattention, or attending only in the wrong place, overlooks half of what he sees; another sets down much more than he sees, confounding it with what he imagines, or what he infers; another takes note of the kind of all the circumstances, but being inexpert in estimating their degree, leaves the quantity of each vague and uncertain; another sees, indeed, the whole, but makes such an awkward division of it into parts, throwing things into one mass, which require to be separated, and separating others which might more conveniently be considered as one, that the result is much the same, sometimes even worse, than if no analysis had been attempted at all."(a) Ponder, too, on these striking words of Sir Gilbert Blane:—

The truth seems to be, that a higher order of intellect, a more rare and happy genius, a more correct and better-tutored understanding, is required to elicit practical truths by observation than to coin theories."(b)

§ V. To conclude, gentlemen, my convictions on the main question, on which I have just addressed you, amount concisely to this:—That Physiology (physical, chemical and vital) cannot logically, nor hence scientifically, be used for the *pre-determination* of the conditions and laws of pathology;—that Physiology may logically, and hence scientifically (if excessive caution and judgment be exercised) be directed, subject to the control of experience, to the *explanation* of those conditions and laws, when established by observation; (c)—and that the essential function of Physiology in regard of pathology is *measurement and suggestion*; the supply of a standard of reference and the suggestion of points and courses of inquiry: while, on the other hand, on those tablets (a) are set down the sole *direct formative processes* of the science. These convictions I have acquired deliberately, and hold firmly; and I have ventured to express them before you with earnestness. In stating them, I have been obliged to trench somewhat on the departments of Chemistry and Physiology. But it is gratifying to me to believe, that I have not broached opinions which (as far as I can gather from the tone of their published writings) clash with the doctrines of those who, in the highest degree, represent those departments here and elsewhere. It is not, I believe, the acknowledged lords of the crucible and alembic, nor is it they who have peered most closely and most steadily into the mysteries of healthy life—it is not the Berzeliuses and the Grahams, the Müllers and the Sharpeys,—that will cry, Hold! because an attempt is made to set a limit to the illogical intrusion of their sciences into the domain of Pathology. . . . . But, whatever my views, I do not the less entertain personal regard and esteem for men who, urged by other views, conscientiously acquired, labour, in accordance with these, to widen the confines of our science and our art. Somewhat as, in the moral world, we visit with our reprobation the crime, rather than the criminal; so, in the intellectual, we may denounce what we conceive to be false in logic, while we cherish him whom we hold to be a pseudo-logician. In this spirit I hope myself to be judged. So long as we are all animated with the love of, and yearning after, truth; so long as we spare no toil to achieve it, our feeling for each other can be none other than of mutual regard and good brotherhood. No matter how different the paths which the various qualities of our minds, our physical constitutions, and contingent circumstances may lead us to pursue, we then all agree in this,—we are toilers after truth for the benefit of mankind. It is this very toiling after truth (the aspiration even more than the possession) that gives the stamp of dignity to our pursuit, and elevates the medical profession in the scale of humanity.

And herein lies one of the noblest attractions to that Profession, — an attraction as little tainted with selfishness, (at least of a low order,) as, perhaps, any human motive. It is a Profession on which worldly honours and lucrative posts are not showered. It is a Profession to which even the homage of lay respect is not uniformly conceded; men of education, men holding seats in the Senate of the land, are found to utter scoffing platitudes at our expense, because, forsooth, we are not omniscient,—the senatorial benches, they are in the habit of frequenting, doubtless teeming in the quality! Charlatanism, decked gorgeously in its unholy spoils, walks abroad in mockery of our science; and there is none to say it, Nay. Our veterans in the army are refused medals; our youths in the navy are denied the decencies due to their social standing. And (climax of incomprehensible indignity!) the Government declares us incompetent to judge and to guide in matters belonging to our own province. It is determined the Public Health shall be legislatively cared for; and forthwith persons (with a single exception) whose days have been passed in pursuits wholly unconnected with

(a) Op. cit. i. p. 438.

(b) Elements of Medical Logic.

(c) Any one who will reflect, without prejudice, on the past history of medicine, will, I think, be disposed to agree with me, that the passion for *universal and rash* explanation (the habit of looking for the *why*, and not the *what*, of morbid phenomena) has indirectly proved one of the most fruitful sources of its slow progress; an unsound explanation, once accepted, interferes to an indefinite time, with the discovery of the true one. Man feels within him, undoubtedly, a sort of instinct of causality; but it does not follow that he is always justified in obeying it. It is often one of the nicest problems to determine, whether, under certain given circumstances, the effort at explanation is, or is not logically legitimate. It may be, that a mental triumph is achieved by resisting that instinct, just as a moral triumph is achieved by a successful struggle against the baser animal propensities. Now, one essential to the admission to an explanation appears to me to be, that this should flow easily (as, of course, logically) from the premises; "The quality of *Truth* is not strained." The amount of effort expended, and of ingenuity displayed in framing any given explanation of obscure pathological existences is very frequently in the direct ratio of its fallacy. Instead of worshipping such ingenuity, as is the fashion, there would be deeper wisdom, I cannot help thinking, in regarding it, *quoad* results, as fraught with illusion and mischief,—as a promoter of spurious, and, *pro tanto*, a preventive of true knowledge. I would say to a youth, starting on the journey of scientific life,—whenever you have woven a web of explanatory theory, peculiarly delicate and subtile, and peculiarly gratifying to your *amour propre* in the matter of invention, deeply suspect your correctness,—nay, sacrifice the product of your brain at once, unless you know yourself to be possessed of that higher moral courage, which will enable you, after it has been given to the world, to surrender it without struggle, if proved unsound. If you fail to do this, the chances are strong, that your theory becomes your intellectual idol, turning you from the just apprehension of truth, even to the end of your existence, blunting your senses, and perverting your judgments. Such was the effect on his own intellectual being (and this was one of no common order) of Broussais' invention of the theory of Irritation. Cullen had the sense and courage to teach and practise the frequent sacrifice of his idol-theory of spasm; otherwise the memory of that distinguished man would have been but the reflection of error. And Cullen, in this partial relinquishment, stands almost alone.

(a) Vide p. 275

disease—men unversed in even the veriest rudiments of the science of life—are selected as the fittest instruments for dealing with the most intricate questions of practical hygienics,—as though incapacity were the father of usefulness!

Well, be it so! Notwithstanding all this, pursue the even tenour of your way, unruffled by these crosses. Dwell on the memory of that brighter side of the picture, I, a moment since, held before you Remember, too, you have the reward of moral distinction, and of scientific reputation, it may be fame, within your reach. Scarce shall your toil have added a new fact or a new inference to our science, before it goes forth to the ends of the earth, and your names may be marked ἐυεργετης in furthest regions. Your labour has borne fruit for the benefit of universal man, "no matter what colour an Indian or an African sun may have burned upon him;" your labour has united the families of the earth in the link of common obligation. Brilliant and soul-stirring reward!

That remarkable man, whose posthumous Memoirs are now appearing, clothed in a mystical solemnity, according with their fabled place of issue, "beyond the tomb,"—he who passed through well nigh every grade of social condition, at one time a vagrant outcast, at another ambassador from his own to the chief courts of Europe, and who, in his experience of the affections and passions, the vanities and ambitions, struck every chord of the lyre—Chateaubriand, I mean—tells mankind, that life offers but two real goods, religion and love. Yet would I plead for the reality of another, and that other not beyond *your* grasp,—the steadfast pursuit of true knowledge, and, through this, the ennobling consciousness of effort to aid in fulfilling the mission assigned your Profession by the immortal Descartes, when he said, (and no Government can blot out the words,) "If the human species can be rendered perfect, the means of that perfection are to be sought for in Medical Science. (a)

ORIGINAL CONTRIBUTIONS.

RETROVERSION OF THE UTERUS AS A CAUSE OF STERILITY.

By EDWARD RIGBY, M.D., &c.; Senior Physician to the General Lying-in Hospital; Examiner in Midwifery in the University of London.

Mrs. T., aged about 26; married nine years; mother of four children; the last was born eight weeks ago; had an abortion between her first and second.

Nov. 10.—Tall; fair; emaciated; face pale, with an occasional flush; nervous and excitable. Complains of great debility; bowels very irritable, and easily deranged by medicine; tongue glazed. Complains of a constant pain at the lowest part of sacrum.

Examination per Vaginam.—Vagina feels as relaxed as in a woman but a few hours after labour. Os uteri turned quite forwards, and very near to the symphisis pubis; uterus is inclined backwards, in which direction it is tender; uterine sound passes two and a half inches backwards and downwards. Replaced the uterus without pain, and the following day applied Professor Simpson's uterine supporter; it passed with great ease, and the displacement at that moment was so considerable that the uterus was nearly topsy-turvy; the uterus felt heavy, but the replacement of it produced little or no uneasiness.

℞ Liq. taraxaci, ʒi.; liq. calcis, decoct. sarzæ co. aa. ℥ iijss. M ft. mistura cujus sumat coch. magn. ij. bis terve die.

(a) The phrase runs in the original:—"Si l'espèce humaine peut être perfectionnée, c'est dans la Médecine, qu'il faut en chercher les moyens."

℞ Pulv. guaiaci magnes. carb. aa. gr. x.; M ft. pulvis om. mane ex aquâ sumendus.

Aug. 12.—The instrument does not produce discomfort. She has lost the pain in the sacrum from which she suffered. Rep.

Nov. 14.—Is decidedly better; has been able to sleep without an opiate, which she has been previously in the habit of using; returns home tomorrow, feeling quite able to undertake a journey. Rep. med.

Nov. 22.—Bore the journey very well, and has driven out twice since; her nervous state (until within the last two days) "decidedly better;" the catamenial period is at hand, and there is much irritability of head, and painful sensation in the lower part of the abdomen; the discharge still continues, but is nearly colorless; the supporter "most certainly relieves;" bowels irregular.

℞ Extr. lactucæ; extr. lupuli, camphoræ aa. ℈ i. M ft. pil. xij., sumat ij. h.s. et. Rep. p.r.n. Pulv. rhei c. magnesia primo mane si opus sit. Rep. mist.

Dec. 20.—Does not report favourably either as regards her increase of strength or diminution of irritability,—the unusually warm, moist weather may possibly have had some influence in this respect. Has taken the last prescribed pills, but does not mention that she derives any benefit from them. Complains of a "tender, hot pain in the lowest part of the back, and also at the back of the head, which stimulants and meat diet greatly increase." Her medical attendant has just prescribed a liniment of belladonna, opium, and soap, and is giving her steel in minute doses.

I have quoted this case as one of retroversion caused by great relaxation of the soft parts shortly after labour, and aided in no inconsiderable degree by the weight of the still relaxed uterus. The glazed tongue and mucous irritation of the intestinal canal, contributed not a little to keep up her state of emaciation and general debility, and I was unwilling to use the prone position, fearing that she could not bear it, although I now regret that slight trial of it was not made before having recourse to the supporter, for experience has since repeatedly proved to me, that we may not only rectify a retroverted uterus by this simple means, but (where there is much want of tone) even produce an opposite state of displacement, viz., anteversion. The supporter was applied with great care, and was worn without discomfort; indeed, in her report of herself after leaving town, she acknowledged that it certainly relieved her. The restoration of her health and strength went on very slowly, and she continued to suffer from the moral and physical irritability of her anæmic condition. In the course of a few weeks afterwards, she was induced to have the instrument removed, and put herself into other hands.

S. W., aged 29, married nine years, two children, three abortions between the intervals of child-bearing.

October 10, 1844.—Complains of forcing and and bearing down pains about the rectum, and of pain darting from the back towards the front of the pelvis; very much increased by the passage of fæces.

Examination per Vaginam.—Os uteri low and somewhat forwards; the fundus is felt quite at the lower part of the hollow of the sacrum. On attempting to pass the uterine sound, the os internum was found too contracted to allow it to pass. Some delay occurred from the occurrence of the catamenia. The os internum was then dilated, and the sound passed backwards into the tumour, which occupied the lower part of the hollow of the sacrum. The fundus was raised into its natural position, and Professor Simpson's uterine supporter applied without difficulty. A sanguineous discharge followed for a few hours, but she experienced an immediate relief to all her local symptoms. No further inconvenience was produced by the presence of the supporter; she improved rapidly in health and looks, remained in the hospital six days, and then returned home greatly improved, and has continued perfectly well up to the present time (Nov. 19).

Nov. 26.—Complains of rheumatic pains in the right leg; there is no irritation from the instrument; there is pain on emptying the rectum, but the bowels are confined. Pil. hydr. c. coloc. gr. x. h. s. Sodæ potassio-tartratis, ʒiss. primo mane.

Dec. 10.—The supporter was removed to-day; she has continued free from pain, except when the bowels are being relieved.

January 7, 1845.—Bowels rather confined, but quite free from her old pains.

March 17, 1847.—In the eighth month of pregnancy; complains much of soreness and pain of the left side; bowels confined. Pil. hydrarg. gr. v., alternis noctibus sumenda; haust. rhei. c. magnesia, primo mane.

April 7.—Feels quite well; has completed the eighth month of pregnancy.

This case, as its date shows, was one of the earliest where the true features of retroversion were thoroughly recognized, and although the first part of the report presents only a general sketch of it, yet the description affords a fair specimen of the diagnostic marks of retroversion. The pain in the lower part of the sacrum, aggravated occasionally to a sense of forcing and bearing down, and extending across the pelvis in the direction of the antero-posterior diameter, are well-marked symptoms of this displacement. They not only afford strong reasons for suspecting the nature of the complaint, but also indicate the degree to which the retroversion has extended, viz., that the uterus is lying across the pelvis nearly in a horizontal direction, a circumstance which is still further confirmed by the aggravation of pain during evacuation of the rectum. In many cases, when the fundus uteri is forced thus deeply down into the recto-vaginal pouch, it becomes much congested, and sometimes acutely tender. I mention this circumstance, in order to point out an error which it can easily lead an incautious observer into. On touching the os uteri with the finger, the patient will frequently start with pain, as in an ordinary case of inflammation of the cervix; and if this be also attended with painful defæcation, and pain on sitting down upon a hard seat, the deception will be complete. It is only by passing the finger *behind* the os and cervix uteri, so as to feel the retroverted fundus, that we can detect the true locality of the tenderness, viz., the fundus itself. Any pressure of the finger upon the cervix *in front* pushes it directly against the fundus, which is immediately behind, and therefore produces pain, not in the os or cervix, but in the congested fundus, as may be easily proved by pressing on the cervix from behind, when we shall find that the patient does not complain. The relief produced by Professor Simpson's uterine supporter was very complete, except, perhaps, a certain amount of pain about the rectum, probably from the long-continued pressure which it had suffered from the rectum. The interval which had elapsed between the removal of the instrument and her becoming pregnant showed that the good effects of the support which had thus been given to the uterus were permanent, and the occurrence of pregnancy was of itself a satisfactory proof that the uterus had not suffered from it.

HOSPITAL REPORTS.

WESTMINSTER HOSPITAL.

Communicated by GEORGE DOWNE, Esq.

STONE IN THE BLADDER.—LITHOTOMY.—RECOVERY.

John Gafley, aged 6 years, an apparently healthy little Irish boy, presented himself among the out-patients of the Hospital, having had symptoms of stone of three months' duration. He complained of great pain after micturition, chiefly referred to the end of the penis; bloody urine, and an inability to empty his bladder without occasionally altering his position. A small sound was introduced by Mr. Holt, and as careful an examination made as the cries and struggles of the patient would permit, without, however, any foreign body being detected. He was, therefore, desired to come again at the expiration of three days; be kept quiet, and have a mild purgative administered every night. The second examination was alike futile, and it was only upon a third trial, after a week's quietude, that

the stone was detected. He was consequently admitted an in-patient.

April 14.—Having been for some days kept upon spare diet, and the bowels moderately acted upon by the occasional administration of castor oil, it was decided the operation of lithotomy be performed. Chloroform was inhaled (in this instance acting very imperfectly, producing considerable convulsive action, accompanied by vomiting and expulsion of fæces, although the rectum had been previously emptied in the morning), when Mr. Holt pushed a common scalpel through the integument, in the direction of the neck of the bladder, and with a gentle sawing motion carried the incision the necessary length downwards and outwards; the groove in the staff was then felt for, and quickly detected, the point of the scalpel introduced and pressed gently forwards. An opening being made in the left lobe of the prostate, large enough to admit the point of the left forefinger, which followed the scalpel and dilated the wound sufficiently to allow its introduction into the bladder, the stone was immediately detected, and the staff withdrawn. The forceps were now had recourse to, and the stone removed, which proved to be a moderate-sized calculus, of compound structure. A piece of previously oiled lint was placed in the opening, and the patient sent to bed.

15th.—Passed a quiet night, having slept soundly. A large quantity of water was made both by the wound and urethra. No heat of skin or acceleration of pulse. Tongue clean and moist. Low diet.

16th.—But little urine having escaped by the wound, and the boy being somewhat restless, the lint was removed, when a quantity of water escaped with marked relief.

19th.—Has been progressing in the most favourable manner up to the present time, when Mr. Holt detected, contrary to his express directions, that one of the patients had yesterday given him a hearty meal of meat and potatoes. He has, consequently, great heat of skin; pulse 110. Restlessness; cheeks flushed. Pain in the head and region of the stomach. Has vomited a quantity of grumous matter, mixed with bile. When spoken to he is irritable, and answers snappishly. He was ordered one grain of calomel, one of ipecacuanha powder, and three of rhubarb, every four hours, until the bowels had been freely relieved.

20th.—Bowels have been open four times, and he is somewhat better. The pain is meliorated, but he has again vomited matter of a bilious character. The pulse is 100, and the skin less hot.

May 10th.—Up to the present time he has been suffering from infantile remittent fever, but is now considerably improved; he is daily carried to the top of the hospital; the wound has almost healed, and the urine escapes by the natural channel.

20th.—Left the hospital cured.

Remarks.—Mr. Holt remarked that this case afforded an excellent illustration of the evil consequences resulting from the administration of food at an injudicious moment. He believed the protracted recovery of the case was entirely dependent on the administration of food at a period when the stomach was unable to bear it, and where the large quantity taken acted as a most powerful irritant; the secretions, which were previously maintained with regularity, were now excessively deranged, and the boy's life placed in considerable jeopardy; the heart's action, from the sudden introduction of a quantity of new matter into the circulation, was accelerated; the liver stimulated to the utmost extent; and the general effects on the system at large made apparent by restlessness and subsequent wandering delirium; the wound, which had previously presented a healthy appearance, was now covered with a sanious discharge, and the urine loaded with phosphatic deposit.

LACERATED WOUND OF ARM—AMPUTATION—RECOVERY.

James Smith, aged 32, an engineer, was admitted April 10th, with compound fracture of the wrists. He states that, while oiling a portion of the machinery in one of the Richmond boats, his hand became entangled between the piston and the beam; upon examination, a large wound was discovered in the palm of the hand, extending beyond the radio-carpal articulation: the nerves, vessels, tendons, and cartilages of the carpal bones were exposed, the extremity of the radius comminuted, and considerable hæmorrhage had taken place. Mr. Holt decided upon immediately removing the arm above the seat of injury. He was placed under the influence of chloroform, when amputation, by anterior and posterior flaps, was performed; some little hæmorrhage occurred from the interosseous artery, which was secured by passing a common tenaculum through the vessel above where it had been divided, and tying it.—Assalcni's forceps not answering the purpose. The edges were approximated and retained by three sutures, strapping, and wet lint being applied over the stump. To have forty drops of tincture of opium.

11th.—Passed a quiet night, sleeping at intervals; pulse 80, and feeble; tongue moist; skin cool; bowels not open for the last two days. Take haust. cathart., beef-tea, and half a pint of porter.

12th.—Bowels twice relieved. Some pain being experienced, the arm was examined, and a little erysipelatous blush detected; the sutures were removed, and a bread poultice ordered to the wound. Skin hot; pulse 100, and feeble; tongue white. Mr. Holt desired he might take of liquor ammon. acet. one ounce, sesqui-carbonate of ammonia fifteen grains, tincture of card. two drachms, and water six ounces,—one ounce every four hours. Continue beef-tea and one pint of porter.

14th.—Improved; erysipelas somewhat subsided; tongue moist, and less white; skin cool; bowels freely open; pulse 90. Continue.

16th.—Suppuration of a healthy character is established, and he is progressing favourably.

May 1st.—A slight collection of matter having been detected at the upper and inner portion of the arm, an incision was made, when about an ounce of healthy pus escaped; in other respects is going on well.

23rd.—Since last report has been progressing favourably, and to-day left the Hospital cured.

ST. VINCENT'S HOSPITAL.

(From our Dublin Correspondent.)

In my last communication I mentioned, that Dr. O'Ferrall had been induced to conclude that the progress of rheumatic fever led to a gradual diminution of the blood globules, requiring, in time, the exhibition of antichlorotic remedies for their renewal. It seemed to me that this is a matter of so much importance, in connexion with practical medicine, that I have thought it proper to examine particularly into the grounds for Dr. O'Ferrall's conclusion, so as to ascertain whether it was founded upon data sufficiently fixed to entitle it to be received as an established truth in medical science. By the kindness of Dr. O'Ferrall, I have been furnished with the following cases from the records of the hospital, which, to my mind, abundantly confirm the chief points enumerated in my former report.

The first case shows, that a cardiac bruit may persist after the cure of rheumatic fever, although from its subsidence, after a certain period, there is reason to conclude that no permanent organic lesion had been established.

RHEUMATIC FEVER.—ENDO-PERICARDITIS.

Frances Gaffney, aged 20, a dressmaker, had been engaged at her trade during the previous six years. Soon after the commencement of her apprenticeship she began to suffer from pain in the left side, dyspnœa on exertion, and palpitations. Had, also, two attacks of fever during the same period, each of which lasted twenty-one days before crisis. On the 11th of May, 1843, she incurred rheumatic fever, with pain and swelling in feet, elbows, and shoulders, their severity being in the order recited. She applied to a medical man, who discovered that she had pericarditis, for which he bled her; and, on the 18th of May, she was admitted into St. Vincent's Hospital.

On examination she was perceived to be very nervous and hysterical; inclined to cry every instant; countenance flushed; its expression anxious and frightened. Tongue red, much thirst and anorexia. Pulse frequent and hard; skin hot and dry. There was some headache above temples. A little cough, but no *signs* referrible to the lungs. Wrists and ankle-joints swollen and painful; pains across shoulders. Dr. O'Ferrall detected frottement at the base of heart. There was also a distinct *echo soufflet* to be heard nearer to base than apex of heart. She was ordered leeches to the cardiac region, and put on calomel and opium.

On the 19th there was no change; but, on the 20th, it is noted, that the anxiety of countenance appeared increased; the face flushed; eyes suffused; bruit very distinct; but frottement no longer audible. Head shaved and temples leeched; calomel and opium continued; and camphorated mercurial ointment rubbed to abdomen.

The gums became a little tender on the 22nd. The countenance did not appear so anxious or flushed. Bruit continued. The next day the mouth became very sore, and the mercury was stopped. The face was pallid and swollen; there was copious salivary discharge. The bruit still continued. On the 24th there was some mercurial tenesmus and diarrhœa, with colicky pains. The swelling and pains in joints were nearly gone. She was ordered anodyne enemata, which removed the entire symptoms, and on the 26th, it is reported, that the cardiac bruit was scarcely perceptible. On the 27th, all evidence of arthritis and cardiac disease had disappeared; the mouth continued swoollen and hot; but this was relieved by leeching the cheeks, and applying lunar caustic solution to the white patches on buccal mucous membrane. From the 27th to the 29th no cardiac bruit could be detected; she appeared pale and weak; but the only remains of the rheumatism consisted in slight pains about the shoulders. On the latter date, however, a distinct bruit became audible at the base of heart behind sternum. Notwithstanding the recurrence of this cardiac phenomenon, her appearance so manifestly demanded tonics and nourishment, that she was ordered wine and meat, and prescribed quinine. Under this treatment she perfectly recovered; the cardiac bruit disappeared, and she left the Hospital in perfect health.

The next case is one of very great importance, and I shall let it speak for itself.

ACUTE RHEUMATISM, ENDO-PERICARDITIS, DRY PLEURISY, BRONCHITIS, PULMONARY APOPLEXY, AUTOPSY.

Catherine Sawlor, aged 9, was admitted into St. Vincent's Hospital, February 13th, 1843. She had been seized with rheumatism the week of the previous Christmas, and at the time she entered Hospital the pains and tenderness of joints still persisted. Her countenance was turgid and swollen, her breathing very much oppressed, and moist and dry bronchial râles generally diffused over both. She complained of a stitch catching breath in lower part of right side, and in the same place frottement accompanying respiratory movements could be detected. There was also frottement in the region of the heart, increased præcordial dullness, and souffiet accompanying both sounds. There was no difficulty in diagnosing dry pleurisy and endo-pericarditis, general bronchitis, and subsiding arthritis. She was ordered a large dose of calomel combined with opium, to be followed by divided doses of mercury with chalk and Dover's powder. Leeches were applied to the region of the heart, and, subsequently, the same part was blistered. Under this treatment the bronchitic râles diminished; the breathing became less laborious; the fever less turgid; the stitch in side ceased; the bruit in second sound behind sternum grew indistinct; but, it is reported, that, on the 26th, the cardiac frottement had become a loud leather creak, very audible at base; and that the bruit in first sound below nipple was very distinct and rough. From this date the child continued to improve to the 10th of March. The leather creak had then disappeared; the cough and dyspnœa had so far abated that she appeared to lie without distress;

the pains in joints had gone; but as a bruit in the first sound at the base of heart still continued and, as the mercury appeared to produce no unpleasant effects, it was thought advisable to continue its administration. On the 12th, however a marked change for the worse took place. Dr. O'Ferrall made on this day the following note:—"She is labouring under great dyspnœa, increased by lying on left side; skin hot, lips florid, alæ dilating; complains of a pain in head that makes her cry. Percussion on both sides below scapula tympanitic; respiration puerile; expiration inaudible; some roughness in the inspiration on the left side; a few mucous râles in front; none posteriorly." Leeches were applied to forehead; and she was ordered two grains of calomel, to be followed by a dose of castor oil; after this she again went on with the mercury with chalk until the 21st, when anasarca commenced in the extremities. She was now ordered diuretics, but continued without any manifestation of improvement until the 30th. There was now perceived some streaks of blood in the sputa, and a comparative dulness was detected in the right side posteriorly in which part there was, also, a minute crepitus From this time the bronchitic râles becames so loud as to obscure the sounds of heart; the pulse grew fuller, the anasarca increased, and the dyspnœa became extreme. She died on the 6th of April.

At the autopsy, the right pleura was found to contain two or three pints of transparent serum This hydrothorax evidently occurred during the last agony, for there was no evidence of it the day before death. The lower lobe of the right lung was black, solid, and, in appearance, similar to spleen. The heart was somewhat enlarged, but the left ventricle continued to form the apex. The pericardium contained a very little serum, but not a trace of lymph or false membrane was on its serous surface, which was smooth and polished. The mitral and aortic valves appeared perfectly normal except some few minute vegetations upon the free margins.

From this case it is manifest, that a severe endopericarditis may be completely cured, and yet the patient may die of the consequences of those diseases. There was here no obstruction to the circulation to produce the pulmonary apoplexy or anasarca. At the time that obstruction existed these effusions did not take place; and it was not until after the heart disease was removed, that dropsy and extravasation supervened. Together with these, super-secretion took place from the bronchial mucous membrane which ended in asphyxia. Just as it is impossible to ascribe the dropsy or pulmonary apoplexy to obstruction, so this last and fatal catarrh cannot be attributed to inflammation. Its genesis was accompanied by increasing feebleness of pulse. The child was getting better until the 10th of March; from that time it gradually sunk; catarrh, dropsy, and pulmonary apoplexy successively came on. Might a more decidedly tonic and nourishing treatment, immediately upon the full action of the mercury, have been attended by a different result? This question was asked at the time, and subsequent experience authorized an answer in the affirmative.

ACUTE RHEUMATISM—CARDITIS FOLLOWED BY ANÆMIA. CHALYBEATES—CURE.

Mary McDermott, aged 26, married, the mother of two children, of a nervous, irritable constitution. Had metritis after her last confinement (eight months previously), and subsequently was subject to diarrhœa, ending in dysentery during five months; she became exceedingly weak, and thinking they would strengthen, she took some excursions into the country during severe weather. The consequence was an attack of rheumatism, which confined her for three weeks; but during this attack she did not present any cardiac symptoms. This was three months before her admission into St. Vincent's Hospital, which she entered on the 25th of February, 1843, for a second attack of rheumatism, which commenced ten days before. Upon admission, the arthritic pains, swellings, and tenderness were fast subsiding; she had slight subacute gastritis; a little cough, but no other pulmonary symptoms. The pulse was strong and hard there was a soufflet in first sound under nipple, with increased action of vessels of the neck with fremissement. The heart was leeched, and she was ordered calomel and opium. On the 1st of March, Dr. O'Ferrall could still detect the bruit in first sound; the calomel was beginning to affect the bowels, and was accordingly replaced by mercury with chalk. On the 2nd a bruit musical was detected in the vessels of the neck, the cardiac bruit continuing. As the bruit do dible persisted she was ordered on the 13th an ounce of Bewley's aqua chalybeata three times a-day. Her catamenia came on the 23rd; and she continued to progress favourably until her dismission on the 10th of April. There is a note to the effect, that she has come sometimes since to the Dispensary attached to the Hospital, complaining of toothache, &c., but quite well of the heart affection, and without a trace of abnormal bruit.

This patient was naturally delicate, had suffered from prolonged sickness, and it did not appear unlikely that a chlorotic condition had been induced by the leeching and mercury employed in her treatment. From that period, however, Dr. O'Ferrall kept a sharp look out after the condition of the cervical vessels in cases of rheumatism and ascertained that a bruit musicale was a very common accompaniment of the latter stages of the disease.

A considerable number of cases might be brought forward in proof of this proposition; the following will serve as examples:—

RHEUMATIC FEVER TREATED BY COLCHICUM AND BARK—SUBSEQUENT ANÆMIA. CHALYBEATES.

Catherine McCormick, admitted January 13th 1848. This girl came into hospital with pain and swelling of several joints; had no heart affection She was given tincture of the seeds of colchicum in scruple doses three times a day, as long as the pains continued severe, and the urine deposited lithates. When the pains moderated, and the urine became abundant, she was put on Donovan's syrup of bark, under the use of which the rheumatism disappeared; but, while taking this remedy a bruit became audible in the first sound of heart behind sternum; and, at the same time, a bruit musical established itself in the vessels of the neck. These signs were regarded as of anæmic origin, and on that supposition treated successfully by chalybeates

Another and similar case occurred in the instance of Catherine Higgins, admitted on the 26th of March, 1849. I mention this case, because in it it was necessary to return to the use of the colchicum, after the patient had been for some time taking bark. The indications for doing so were, the return of the pains and re-appearance of lithates in the urine. In this case, also, anæmic bruits towards the decline of the disease, pointed out the diminution of hæmatosyne, and indicated the propriety of exhibiting chalybeates. In neither of these cases was there any antiphlogistic or weakening treatment employed, to which the subsequent anæmia could be attributed. In both, the diminution of the blood globules appeared to be an essential consequence of the previous disease. I, therefore, think we are entitled to decide that Dr. O'Ferrall's conclusion is fully warranted by experience, and that he has made a very valuable contribution to practical medicine.

ABSCESS SIMULATING MALIGNANT DISEASE.

A remarkable case of this nature lately occurred at St. Vincent's Hospital. The patient, an old woman of about 60, having a sallow unhealthy aspect, was admitted on account of a large tumour, extending over the two lower thirds of thigh. Upon being handled this tumour was found to be variable in consistence, the greater part of it being elastic, but in some places being hard and resisting. A firm nob was felt projecting in the popliteal spaces. Some large veins ramified on the surface of the tumour. The leg was considerably shorter than the opposite one. Upon inquiring into her history, it appeared that she had hurt her knee when a young girl by a fall on some stone steps, and that ever since she had been subject to occasional attacks of pain and swelling; but the commencement of the present disease she ascribed to the beginning of March in the present year. She then first perceived pain and enlargement of the lower part of thigh, and since that time these symptoms have gone on increasing until the disease attained its present volume.

Upon a careful examination of the swelling, Dr. O'Ferrall satisfied himself that the elastic part contained a depôt full of liquid. He was principally guided in arriving at this conclusion by the depth to which he could, by a gradual effort, press his finger, and the sudden resistance to this pressure which occurred at the greatest depth. The presence of liquid being decided, the probability was that it was pus. The hard parts had now to be accounted for; but by a careful examination of their form and relations he soon ascertained that they were caused by the displacement of the normal bones; one of these being the patella, pushed outwards and upwards; two others, at the lower part of the sides of the tumour, being the condyles; and the hard prominence in the popliteal space, caused by the presence there of the head of the tibia, dislocated backwards.

Dr. O'Ferrall having explained the grounds upon which he formed the foregoing diagnosis, to the class, proceeded to make a puncture with a grooved needle; a small quantity of pus issued, showing the correctness of the views formed; upon this, a larger opening was made with a bistoury; a pint and a-half of strumous pus escaped, when the opening became closed by a curdy mass, and as there was no object to be gained by permitting further escape, the pain and tension being already relieved, advantage was taken of this accident to prevent the ingress of air, about two or three pints being still retained in the abscess; a large poultice was then applied. Since the evacuation of the abscess, the patient has much improved in general health.

PROGRESS OF MEDICAL SCIENCE.

FRANCE.

CHOLERA.

The cholera has nearly disappeared from Paris, and altogether so from its environs; yet Parthian-like, its last blows are treacherous and fatal. Several Medical men, connected with the military hospitals, have been cut off within the last two weeks. The total mortality in Paris, since the commencement, now amounts to 18,739,—a number considerably over that of 1832. The accounts from the provinces are still very unfavourable. The ravages of the epidemic are great in all the chief cities of the south, Lyons, Marseilles, Toulon, &c. In the west, Strasburg also suffers severely.

The question of contagion again came before the notice of the Academy of Medicine on Monday last, but like all other debatable points, it seems to become more obscure each time that it is submitted to medical discussion. M. Begin, a surgeon attached to the military hospital of Arras, mentioned some facts not devoid of interest. 350 men were dismissed from one of the barracks in which the epidemic had broken out with excessive violence. A great many of the men laboured under premonitory diarrhœa, at the time of their being thus distributed in the other quarters of the town. They mixed with 2,000 of their comrades, and not only did not communicate the disease to the latter, but seemed to have escaped from the focus of infection, for only three of them died. In opposition to this fact, however, many medical men related examples where it was very difficult indeed not to see the influence of some contagious principle.

At the same meeting a vast number of applications were made by persons who think themselves entitled to the prize of 100,000 francs left by the Hamburg banker, to any one that may discover a specific for cholera. According to these worthies, there is no lack of "infallibles" already. We shall, probably, soon have a reinforcement from the hand of quacks.

At the last meeting of the Society of Biology, M.

Sequard mentioned a very curious case of true tubercle developed in the cervical portion of the spinal marrow of a rabbit. What renders this case interesting is, that the symptoms were almost exactly the same as they would have been, had the subject been of the human species—trembling and contracture, followed by paralysis, with throwing back of the head, &c., &c.

SYPHILITIC CONTRACTION OF THE LARYNX.

At a meeting of the Surgical Society, on the 12th, M. Ricord showed two patients affected with this rare disease. The first was a young man, who had laboured for some time under tertiary syphilis. The larynx was attacked at last, and the patient appeared threatened with asphyxia. M. Ricord thought it necessary to perform tracheotomy; but, on dividing the trachea, the air did not gain access to the lungs, and there was nearly complete asphyxia. M. Ricord himself and the assistants, in a state of indescribable anxiety, expected to see the patient perish every moment under the knife. The presence of mind of M. Ricord saved him. After a slight hesitation, he applied his mouth to the bleeding wound, and, by strong efforts of suction, succeeded in removing some of the pus, mucus, and blood, that obstructed the passage. He then inflated the lungs with all his might, and, at the same time, compressing or raising the chest, he succeeded in re-establishing the respiratory movements after five or six minutes. During a whole month it was almost impossible to apply a canula or any other kind of instrument, small or curved. The difficulties, however, were overcome at length, and the canula of M. Berrard introduced. The patient will probably be forced to continue it for the rest of his life, because the syphilitic tumours which obstruct the trachea, tend constantly by their growth to obliterate the artificial opening.

After the relation of this case, M. Ricord was warmly congratulated by many of his colleagues for his promptness of decision, which prevented an accident of the most deplorable kind. When a patient dies under the knife, the surgeon is always the guilty party in the eyes of the public.

SCOTLAND.

[From our Edinburgh Correspondent.]

Some weeks ago it was announced that a vacancy had been declared among the surgeons of the Edinburgh Infirmary, and the names of the candidates who first appeared were noticed in the *Medical Times*. Since then Mr. Spence, who has been well known for a considerable time in Edinburgh as a Teacher of Anatomy, and more recently as a rising operator, came forward as a candidate. It was also mentioned in a former communication that Professor Miller, the expiration of whose term of service created the vacancy, had applied to be re-appointed as acting surgeon, so that, in the event of his request being granted, the new applications would be superseded. Till Mr. Spence appeared among the candidates, it was commonly supposed that Professor Miller would succeed in his object. But as Mr. Spence came forward with a surgical reputation in his favour, it became a question whether the interests of the Infirmary would be better served in the end by retaining Professor Miller or by placing Mr. Spence on the establishment; and, as usual, different views were taken by different parties. On Monday last the managers of the Infirmary settled the question in favour of Mr. Miller, by re-appointing him Senior Acting Surgeon for another year. In this re-appointment the managers have done nothing more than their rules warrant; for though the general bearing of the regulation is, that a surgeon's whole period of service shall expire at the end of eight years, yet there is a proviso added, that it may be extended if the managers see fit. It may be doubted, however, if it would be wise in the managers to encourage applications to this effect from the surgeons concerned. When an application is made, backed by a surgeon's friends, it is not easy to resist importunity, even though the interests of the Institution may counsel a different course. It would plainly be a good rule, that the extension of a surgeon's term of service beyond the statutory period should be the unsolicited act of the Board of Management, as flowing from a conviction that his particular merits deserved such a mark of their approbation.

In the present case, though there may still be differences of opinion, it cannot be said that the Managers have gone far wrong, inasmuch as they have retained in the hospital a surgeon of deservedly high reputation. If they have done wrong at all, it is in not putting his re-election solely on the footing of a reward for his particular merits in the previous term of his service. But there is even claimed for them the praise of having acted a very disinterested part in re-appointing Mr. Miller at the very moment when a rumour, apparently well founded, first got abroad, that the Medical Faculty of the University, of which, as Professor of Surgery he is one, are about to spring a mine on them by setting up a New Hospital. If such a scheme be carried out, it will diminish the income of the Royal Infirmary, as well by dividing the contributions of the public of Edinburgh, as by withdrawing a large proportion of the pupils. And when the authoritative evidence in favour of the existence of this still unannounced intention was considered, it could not have seemed a very far-seeing determination on the part of the Managers to begin the rearing of surgeons fit to attract pupils in the event of the new scheme depriving them of those who at present support the surgical reputation of the Infirmary.

Of the scheme itself of a new hospital, we can hardly venture to speak at present. It is very certain the Medical Faculty of the University have all the inclination in the world to found such an hospital. They wish to convict the Infirmary Managers of antiquated prejudices. They are eager to exemplify the maxim, that the most strictly clinical basis of management is the truest humanity. But everybody asks where the funds are to be had. Can General Reid's Musical Bequest to the University be made to play the part of Amphion's harp, when at raised the walls of Thebes? There is, to be sure, a considerable sum at the disposal of the Edinburgh bar, left some time back by an Edinburgh tradesman of the name of Chalmers, to erect an hospital "for the Sick and Hurt." But, if their hopes at present have no other foundation to build on than the Chalmer's Fund, many of us have a shrewd guess that, though they may get a new hospital, they will find the Advocate-Managers harder task masters than the much-abused Managers of the Old House.

Two new lecturers on surgery appear in the Edinburgh Extra-Academical School next winter,—Dr. Mackenzie, whose intention was mentioned in a former communication, and Mr. Spence, whose application for the assistantship in the Infirmary was superseded by Mr. Miller's re-appointment. He was formerly associated with Dr. Lonsdale, now of Carlisle, and Dr. Handyside, in their course of Anatomy, but for a few years past he has taken no part in teaching.

The Public Health.—All hail to Government care of the public health wheresoever we find it! Would that our own Board of Health would take a leaf from the book of other nations, and endeavour to release our capital and the chief cities of our country from the hygienic curse that rests upon them! The Government of Piedmont has lately promulgated—and that notwithstanding their political embarrassments—instructions to local authorities regarding the public health in their several districts. Hospitals, prisons, and penitentiaries are to be regularly inspected, and the regulations concerning their hygienic relations peremptorily enforced; apothecaries' shops are to be examined as regards the purity and sufficiency of their drugs; grocers, confectioners, dealers in spirits, beer, vinegar, and gaseous waters are to submit the purity of their wares to the consideration and sanction of the Board; and the keepers of baths and the manufacturers of artificial mineral waters are likewise to obtain their license for the exercise of their craft.

Correspondents are requested to address their Communications to "The Editor of the Medical Times *147, Strand."*

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THE MEDICAL TIMES.

SATURDAY, OCTOBER 6, 1849.

The last few months will constitute an era in the history of this great Metropolis, in consequence of the mortality which has resulted from the invasion of Cholera. Since the 17th century no Epidemic has been so fatal, for upwards of 13,000 persons have been already cut down in a few weeks by this modern plague. Medicine, in a large number of cases, appears to have been powerless; and thus the science of the Physician, in measuring strength with the enemy, has been placed *hors de combat*.

The history of Epidemic Cholera has been clearly traced; and though a wide and remarkable difference exists between it and previous Epidemics, yet its eccentric progress has been marked with an accuracy as complete as any in the archives of Medicine. That there is some subtile agent which produces this disease admits of no doubt, but science has been unable yet to discover what the virus is. There are certain conditions, however, which favour its development and diffusion, and we have on this subject an accumulation of facts highly instructive.

The Surgeons of India were not slow in discovering that Cholera visited more frequently and more fatally, low, confined, and marshy places; and Medical men in Europe and America have also remarked that the localities of great cities, whose sanitary condition has been grossly neglected, are attacked with the greatest severity. It was a knowledge of this fact which gave a new impulse to the Sanitary Reform question; and, before the present Epidemic reached our shores, men who had made themselves acquainted with the condition of our towns and villages, forewarned the people of their danger, and exhorted the Government to interpose for their safety. Three sanitary Bills were at different times introduced into the House of Commons, but were ignored through the opposition of persons whose vested interests were threatened; and it was not till Cholera was at our doors, that Parliamentary Acts were passed for the improvement of the health of towns. These new laws invested the Board of Health with certain powers. It was supposed that the authority with which it was thus clothed

would have been promptly and vigorously used in putting down "nuisances" which experience had proved favoured the development of some most malignant diseases. But, as we have before stated, Cholera has appeared in this great city; it has visited the very localties which it was expected it would; it has slain its 13,000 victims, and even now the destroying angel has not put up his sword;—in the midst of this havock, we look around to see what has been done in the way of sanitary reform, and we are astonished to find that hardly an improvement of any importance has been effected.

In the sewered streets, almost a countless number of untrapped gully-holes afford a free egress to the foul effluvia generated by the Lethean stream which rolls below; and the Commissioners of Westminster have adopted the notable expedient of driving those gases with ten-fold force into the streets under their jurisdiction, by closing with an elastic shutter, which rises and falls with the level of the water, the mouth of the great sewer debouching into the Thames near Vauxhall-bridge. The atmosphere of Belgravia has, in consequence, become especially offensive; and in the third and fourth-rate streets, cholera and typhus have been carrying off numerous victims.

In every district, moreover, we find many of the habitations of the poor without any effective drainage. In some streets with which we are acquainted, and in which Cholera has raged with great violence, not a single effort has been made to render the dwellings more fit for human beings. The landlords laugh to scorn the remonstrances of sanitary officers and medical men; and those who have the power to punish the refractory owners of houses appear indisposed to exercise it. So long as the present system of lodging the poor prevails, disease and immorality will be rife amongst them; and if their wrongs are not now redressed, the day is not far distant when the Legislature will be compelled to interpose in their behalf.

The manufactories of soap-boilers, tallow-melters, glue-makers, and bone-burners, are in as active operation as ever, and from their several establishments the same offensive effluvia are emitted as before the visitation of the Cholera. Smithfield still remains, with all its ancient privileges, intact; and vested interests are permitted to triumph over the claims of humanity. True, there is a report that the nuisance is to be removed; but how many lives will be sacrificed, before the Legislature interpose to free the city of one of its most fertile sources of disease? In Aldersgate-street, the filthy laystall still exists, to which we adverted on a former occasion; and it is only at the eleventh hour that the Board of Health has begun to check the system of intramural interments. If those sapient citizens, who seem so attached to these abominations, would only attend to their natural instinct—should this not have become deadened by repetition—they would find an unanswerable argument for their removal, in the difficulty of appeasing the annoyance experienced by their olfactory organs whilst passing these places.

From the sources referred to arise *invisible* agents productive of disease and death; but to these must be added one, cognizable to the *sight*,—the Smoke Nuisance. The inhabitants of this Metropolis are compelled to breathe an atmosphere impregnated with carbon, which impedes the healthy action of the lungs, and therefore, by weakening the natural powers of life, renders an individual more susceptible of disease. It is well known that there is often found a carbonaceous deposit on the surface of the membrane lining the bronchial tubes; an atmosphere vitiated by opaque smoke is calculated to increase this deposit. From an immense number of chimneys, and from the many steam-boats on the river, there are constantly poured forth volumes of dense black smoke, which hang like a pall over this devoted city. And yet the nuisance is capable of being, to a great extent, abated. It has been proved, by experiment, that, at little cost, a large proportion of the volatile products from coal may be consumed. The subject was brought before Parliament at the close of the last session, yet nothing was done; though it was stated before the House, that in Manchester, and some other towns, the experiment had been successfully carried out, and it would only have been required to enact that to each furnace the same preventive means should be applied.

Such is the state of London at the present moment, after all the efforts of sanitary reformers, and with a fatal Epidemic in our midst which, although abated, who shall say will not return with renewed vigour? How long, we ask, is such a state of things to continue? Are vested interests to triumph for ever over the claims of humanity? Is medical science to be left to cope, single-handed, with so many evils? If London is to continue a great and prosperous city, sanitary reform must be vigorously enforced. We are aware that it is a great work, but it *can* be accomplished. Let the Board of Health not lose a moment, but, as this is its province, put forth all its powers, and answer the end for which it was appointed.

DR. BRITTAN'S CHOLERA VIEWS.

DR. BRITTAN's observations on the microscopic elements of the sediment of the Cholera discharges, to which we referred in our last Number, have appeared in the *Medical Gazette*. We find we have anticipated almost every thing which Dr. Brittan has now published, and, after the best consideration we can bestow on the subject, we are disposed to think, that we said last week all that is at present to be said. It appears evident, that the value of such observations as those of Dr. Brittan, depends upon their completeness and their universality. At present, the description given of these "annular bodies" is [illegible]perfect, that we are really doubtful whether they can be considered of fungous origin. The supposed identity of these bodies, and of the organic spherules collected from the atmosphere, is based entirely on a presumed similarity in form; and repeated examinations are necessary, before we can even affirm the constancy of such form. Again, the value of the observations necessarily depends upon the proof which can be given of the universality of the phenomena; but, at present, perhaps not more than 100 examinations have been made of Cholera discharges, for the purpose of determining the presence of the "annular bodies," and these examinations have been made only in one or two localities. But to prove these fungi,—if they are fungi,—to be invariable elements of the Cholera discharges, and of the Cholera atmosphere, examinations must be made, not in hundreds, but in thousands of patients; not in two, but in hundreds of localities.

Even now grave doubts may be entertained as to the constant presence of these "annular bodies" in the Cholera discharges. They do not seem to have been distinguished from other cell-forms in the microscopic examinations which were made in the former epidemic by Boehm, or in those which have been published in the present attack by Parkes and Gairdner. It is quite possible, indeed, that these "annular bodies" may have been always overlooked; but, at this point of the inquiry, it may be doubted whether this was the case, or whether they were not really absent in the cases which fell under the notice of the observers above mentioned. Indeed, we find Dr. Brittan himself stating, that "in very rapidly fatal cases these bodies are sometimes to be met with only in very small quantity, *or are altogether absent*," although such cases are exactly those in which we should, *a priori*, expect to find the "annular bodies" in largest quantity, if they are to be admitted as the *cause* of cholera. We perceive also, in Mr. Swayne's Table, out of twenty-eight observations, one case noted as "unusually severe," in which none of the "annular bodies" were found; three other cases, in which they were also absent; and no less than fifteen in which they were few, and often doubtful and indistinct. We have no wish to throw unnecessary doubt on the existence of these bodies; still we cannot but consider that their universal presence is anything but proved, even by the observations of those gentlemen upon whose inquiries the existence of these bodies has been admitted.

In Dr. Budd's Letter, to which we alluded last week, we find the whole question summarily disposed of. No doubts, no reservations, no restrictions are admitted. The many gaps which direct observation has omitted, are dexterously filled in by the convenient materials of probability and conjecture. The fungous origin of cholera is at once assumed, the spread of the disease is thereby explained, and the method of prevention pointed out. And yet the only new fact, if it be a fact, which Dr. Budd can add to Dr. Brittan's observations, is the detection of these "annular bodies" in the water procured from Cholera districts. As far as we can gather from his Letter, this observation and Dr. Brittan's facts form the sum of the evidence on which the conclusions rest. But, allowing to Dr. Budd the utmost advantage he can derive from all the facts hitherto known, and permitting to these facts much greater precision and certainty than they are yet entitled to, let us ask Dr. Budd the following simple questions:—

1. Has he any other grounds for considering the "annular bodies" to be the *cause* of Cholera, except on the supposition which *cannot* yet be proved, that the presence of these bodies constantly coincides with the manifestation of the symptoms of Cholera?

2. Why, if the annular bodies are "disseminated in the air in the form of impalpable particles," are they taken into the system only by swallowing, and not by respiration?

3. Why, if they are fungi, should the "annular bodies" be "developed *only* in the human intestine?"

4. How is it established, that the "peculiar flux," with its consequences, constitutes the disease termed "Cholera," seeing that this is one of those important points on which a great difference of opinion exists, and which is certainly not to be hastily decided on the strength of a mere hypothesis?

We conceive that Dr. Budd will have some little difficulty in answering these queries with the evidence he at present possesses. But we will venture to ask him one more question. If it be at present a mere series of hypotheses,—1, that these annular bodies produce Cholera; 2, that they are received into the human system only by swallowing; 3, that water is their principal vehicle; 4, that they are propagated only in the human intestine: if all these assertions are supported by observations of the most limited kind, what would Dr. Budd say to a man who comes gravely forward to recommend to the Government preventive measures as a certain method of arresting the spread of Cholera, which are based solely on these hypothetical opinions? Dr. Budd proposes to destroy the supposed cause of Cholera by "receiving the discharges from the sick into some chemical fluid known to be fatal to beings of the fungus tribe." But, if the hypothesis be not true, and if the "annular bodies" are not the cause of Cholera, his method fails. If they *are* the cause, but are not disseminated only through the medium of drinking water, or of food, his method fails. If they are the cause, and *are* disseminated through the medium of drinking water or of food, but are not solely propagated in the human intestine, his method fails. A single deficiency in the hypothetical conclusions strikes away the base from the hypothetical treatment.

It is true, that Dr. Budd may be quite correct in his hypothesis and in his treatment. We should not the less strongly object to the "Royal road" by which he arrives at Truth. In the case of Cholera, as of all other sections of Medicine, observation, and not conjecture, should be the course of the Physician. The fungous theory of Cholera may be true; but it must be demonstrated, before we can admit it to be so. At present we are still very distant from such a conclusion.

THE RISE AND FALL OF GLYCERINE.

The immortal dramatist has said, there are

> Tongues in trees, books in the running brooks,
> Sermons in stones, and good in everything.

It is amusing, and at the same time painful, to witness the stately and pompous manner in which imagined new discoveries are announced. Nor is it uninstructive to contemplate the mode in which they are introduced to public notice. Paragraph after paragraph finds its way into non-professional Journals, relating the wonderful success of the new remedy in the hands of Mr. This or Dr. That. The blind see, as if touched by the charmed wand; the deaf hear, and look with astonishment on the professional magician. Crowds beset the door of the fortunate practitioner, and gather in the distance, breathless from anxiety at the promised relief. Not only are the means furnished for, but substantial inducements prompt to further publicity. The ball is kept in lively play; bandied from one publication to another, until the point of repletion is at length reached, and a character established for enterprise, ingenuity, and tact. Then it becomes no longer convenient to be known for any peculiar excellence in the treatment of any one disease, and the ball is allowed gently to drop.

If not this a true picture of the mode in which restless ambition sometimes mounts the ladder to temporary distinction or to notoriety? We do not find fault with those by whom the ascent is made—we leave them to the enjoyment of the feelings which such ascents never fail to inspire.

It is the public that is in fault, and, to some extent, the Medical Profession. The ignorance of the first may, in some degree, be calculated upon. It is natural they should swallow with avidity that which they do not understand. But what are we to think of the intellectual condition of too many of the Medical Profession? On their behalf, ignorance cannot be urged, except as a libel on their understanding, attainments, and position in society. And yet their frequent anxiety to receive, and implicitly to adopt, everything new that is advanced, however crude or improbable the influence it exerts may appear, presents no flattering picture. Had a little common sense been brought into play,—we will not allude to the necessity of any superior penetration,—would they so readily have believed that Glycerine had a wonderful power in restoring hearing? Suppose they had asked themselves,—and the question is not unimportant,—on what does deafness depend in the majority of instances? Surely if they had recollected the structural changes which constitute by far its most frequent cause, they could have arrived but at one conclusion:—that in the greater number of cases, no such remedy could possibly be of advantage—unless, indeed, the beautiful and complicated apparatus of hearing, bones, nerves, membranes, could be replaced and compensated by—a little fat! And if further they considered those cases which are characterised by functional derangement, their own experience would at once suggest various remedies in daily use and of unquestionable efficacy. Among these, Glycerine may be numbered; and that without risk of disturbance. It has had its day, and it has served its turn.

It is human nature to express regret on that which ceases to be, particularly when it has been held up to admiration, and endeared to us by no ordinary anticipations of its wonderful properties. Glycerine, however, is dead, and it will require far more talent to re-animate it, than was required to breathe into it the spirit of life.

There are "sermons in stones," and Glycerine would be a fertile text for a discourse on the mutability of human hopes,—on the inevitable law of decay and annihilation inherent in everything that is good,—on the weakness of poor human nature,—on its credulity, and on the want of just and enlarged philosophical views more generally pervading the Medical Profession. We will not sermonize, but simply suggest Glycerine as a text for the enlightened reader, and, perhaps, some one will favour us with well-digested thoughts on so important a subject. Not that we wish to bring it back to life in all its seducing and attractive promises. It will necessarily be delicate; and we cannot afford space, in the pages of the *Medical Times*, to re-establish it in its pristine vigour.

"There is good in everything." Glycerine is good, because it has a moral; and we doubt not, that those who have enriched themselves by the application of the remedy, are too well occupied to work out the reflections which the moral suggests.

On another occasion, we may endeavour to bring under notice some of the long forgotten *idols* of the Medical Profession; and, in search of them, we need not go beyond the recollections of the present generation. In contemplating the more remarkable of them, we have been struck with the facts, that the idol and its creator, the nurse and the introducer, have been short-lived in reputation, and that there is greater difficulty in recalling the name of the fortunate wight who flourished on the specific of his own happy and inspired thoughts, than in bringing to mind the once-renowned properties of the remedy. This is strange. It may arise from some peculiarity in our mental constitution; and if this be not the case, there is only one other mode of explaining the phenomenon. It would appear, that the talents of the individual were less calculated to leave an impression on the times in which he lived, than the remedy which he introduced. This is a painful reflection. Our great Surgeons and Physicians—men who have left a name to honour and respect—have never been specific doctors. They had no cure—all remedy—for the ear, the eye, the lungs, or for any other diseased organ; and the high-toned and high-minded course which they pursued, should be held up as an example to all who are ambitious to bequeath to posterity an imperishable record of their talents.

DR. JAMES ARNOTT'S TREATMENT OF CHOLERA.

We lately called on Dr. James Arnott to show cause why his single testimony should be deemed adequate to set aside certain long received maxims in the practice of medicine. Our readers have seen the answer made by Dr. Arnott to that appeal. We assured him that we were no more sceptical than the occasion demanded, and respectfully asked him to put us in a position to judge of the weight due to his testimony. We pointed out to him the qualifications which, since the days of Bacon, have been held requisite to the competency of a witness who speaks to wholly new phenomena at variance with older observations. Upon this, the Doctor thinks fit to charge us with want of dignity and with ungentleman-like conduct, and seems to feel himself freely entitled to make use of the *ipse dixit* as a conclusive proof. To nothing but the reiteration of this inanity will he condescend. We give him friendly counsel,

when we advise him to the sparing use of this pseudo-argument, which only sits naturally and becomingly on the lips of the all-impudent quack, and is the very talisman by which he fleeces the too-credulous public. Will Dr. Arnott permit us to remonstrate with him? We are sure we speak the sentiments of all the sensible part of the Medical Profession. Will he allow us to hold up the mirror to his real position, as respects his proposal of benumbing cold in Cholera?

Dr. Arnott, some time ago, saw reason to believe that benumbing cold is a useful remedy in headache, and he has since suggested the use of this agent in various diseases. While in July last he was writing a paper on the use of cold for the restraint of hæmorrhage after delivery, a sudden thought occurred to him, that "a mixture of snow and salt at the temperature of the zero of Fahrenheit is the only remedy of which the power appears commensurate with the violence of Cholera;" and, accordingly, he made the announcement of this inspiration in a postscript to the letter he was writing at the moment it rose on his mind. A fortnight later, he published some theoretical views tending, as he thought, to strengthen this idea. For the next two or three weeks, he was engaged in looking out for a case of Cholera, on which to test his inspiration. At last he met with the case of a boy, and soon after with that of an old man, in both of which he pronounced the attempted frigorific to be of good effect. In both cases other treatment was practised. In the case of the old man, the characteristic symptoms of Asiatic Cholera were not developed, and the case of the boy is not detailed with the minuteness requisite to convince us of its having been a genuine instance of Asiatic Cholera.

Let Dr. Arnott look at this picture, and say if the man who sat for it be fairly entitled to complain of being dealt with in what he styles an undignified and ungentlemanlike manner when he was reminded that it was possible his preconceived notions might have led him to attach a higher value to the effect of cold in cholera than the paucity of his observations warranted. Is this a time to ask us to believe, on such evidence, in the curative effects of an agent, till now forbidden on intelligible grounds, when the Press teems with boundless encomiums, even from the most respectable quarters, of kinds of treatment against cholera, which fail as invariably as they are tried on a sufficient scale?

We admit the efficacy of ice as a means of checking vomiting, and most probably this is the source of Dr. Arnott's apparent success. But there are two things to be borne in mind as most materially affecting our judgment of his communication; first, that vomiting and purging yielding to ordinary treatment prevail at this season, altogether independently of the presence of Asiatic Cholera; and, secondly that out of every hundred cases of genuine Asiatic Cholera, a certain number, (not less, we think, than thirty), recover, without treatment under the most unfavourable circumstances. And, when we say unfavourable circumstances, we do not include such untested and hazardous modes of treatment as Dr. Arnott proposes; for it is surely not only possible, but extremely probable, that a greater or less proportion, or even the whole, of the 30 per cent. just referred to, may be sacrificed to the wild plans of treatment suggested by visionaries. Fortunately for humanity, it often happens that such dangerous designs (and this is the case with Dr. Arnott's proposal) cannot be carried out to the extent directed, because sufficient means are not at hand for the purpose. Dr. Arnott acknowledges the difficulty of carrying his plan into complete effect, and he must excuse us for thinking that his two patients probably owed their escape to his failure to accomplish what he so earnestly recommends.

The sentiments put forth in Dr. Arnott's letter of reproach are far from impressing us with confidence in his judgment with respect to the observation of before untried remedies. On his veracity and honesty we do not cast a shade of suspicion. In the whole communication we discover but one satisfactory statement, namely, a qualification to the effect, that it is the short and limited application of cold that he advocates. If this qualification was all along in his mind, he must have taken much pains to conceal the expression of it, in some corner, probably, of his Pamphlet. In his communications on the treatment of cholera, he nowhere, before his last letter, makes any such limitation. All his previous statements tend to suggest the idea that he thinks the treatment by cold cannot be carried far enough. We are glad, for the Doctor's own sake, that he has thus limited his proposal; but even after this restriction our objection remains unsatisfied.

"Greater medical improvements," the Doctor says, "have been, at first, no better received." Is it a just cause of complaint, that every novelty in medicine is made to pass through an ordeal, severe in proportion as it deviates from previously-received views? But if Dr. Arnott be confident that his proposal can go through the necessary ordeal, why does he retort upon those who simply refuse to it their confidence, till it has been subjected to the usual tests? Surely Dr. Arnott must perceive, that the most notorious of Quacks can say of the opposition made to his nostrum, that all great medical improvements have met with resistance. If many of Dr. Arnott's patients, as he says, have been treated by benumbing cold in the presence of other medical men, why does he not ask them to corroborate his statements, as far as the circumstances fell under their notice. We assure him, the Profession at large stand aghast at his statements, and, without corroboration, will remain incredulous.

The Doctor next asks, "Whether it be a sufficient reason to distrust an experimental fact, because it does not accord with preconceived theoretical views?" No such idea occurred to to us. We said his proposal "is at variance with every received principle of physiology, in regard to the relations of temperature to life;' but these principles are not theoretical views but well-established general facts in regard to the incompatibility of all the phenomena of organic bodies with certain degrees of cold And we added, "when things are brought forward in the character of facts which contradict all our past experience, and all our received views in relation to living action, *we require something more than common evidence before we yield our assent.*"

Again: Dr. Arnott affects to think that we objected to his proposal on account of its novelty. We made no such objection; on the contrary, after stating, that it is a proposal wholly new to the practice of Medicine, by adding that we had no unalterable opinions, we distinctly indicated, that our objection was not its novelty, but a defect of that sufficient evidence which a new proposal requires in respect to the facts on which it is founded.

Neither did we say, in the words put into our mouths by the Doctor, that refrigeration must be bad in so exhausting a disease as Cholera; but we asked, as we ask still, how we should be expected to believe, on such slender evidence as he has furnished, in the value of reducing the temperature of the stomach to the zero of Fahrenheit,—and this we maintain was his original proposal,—without any mention of limit as to time?

The Doctor's next proposition shows a calibre of mind which cannot be too much distrusted in the suggestion of innovations on established usages. "If ice," he says, "has been deemed a most beneficial remedy, why should not a greater degree of cold than that of melting ice, properly applied, possess greater power!" If we were capable of being astonished by anything, this sentence would certainly astonish us. The beneficial effects of ice rest on experience,—experience is the ground on which our faith in it is founded,—but we do not yet believe a greater degree of cold to be more beneficial, because there is no sufficient experience in its favour, and because the same kind of evidence has not hitherto proved it to be free from danger. Our readers remember that some people have lost their lives by Morison's pills carried to excess. In this case, the Doctor seems to have borrowed the kind of logic which betrayed some of the ignorant vendors of those pills into the crime of manslaughter; it is the natural reasoning of men unacquainted with the laws of the living body,—if the four or five grains of gamboge contained in a few of our pills produce effects so beneficial, forty or fifty grains must be ten times more useful; and by this simple formula, now made his own by Dr. Arnott, they innocently cured their victims of all human sorrows.

The Doctor then asks, triumphantly, if there be any reason for fixing the degree of cold at 32 deg. Fahrenheit, because water happens to freeze at that temperature," as if frost-bite were not known to be an effect of the local application of cold, and as if water capable of freezing formed no part of the living body.

Dr. Arnott's next grand discovery is, that two blacks make a white. Have not the majority of the remedies which have been employed in the advanced stage of Cholera been of a dangerous character?" Why, then, he wishes us to infer, should we be afraid to put snow and salt into a man's stomach? This argument worthily crowns the whole.

If Dr. Arnott finally succeed in establishing the safety and ability of a zero-cold applied to the membrane of the stomach, we shall not promise to cry "*peccavimus*," because, even in that

event, we shall feel that we did nothing more than our duty in resisting insufficient evidence; but we shall be among the first to congratulate him on his success, and to proclaim his praise, provided he do not ask us to pronounce him a sound logician.

MEDICAL EDUCATION IN FRANCE.

At the present time it may not be inopportune to notice briefly the system of Medical Education pursued in France and compare it with that which prevails in our own country. Comparisons, they say are odious; but this must apply to persons, not to things, for an equitable comparison often leads to the detection, if not to the remedy, of error.

The first object of every reformer is to point out abuse; the next, to find a remedy for it. Now, it may be laid down as an axiom, that the chances of abuse in any system are proportionate to its complexity, just as the chances of error are greatest in an algebraical problem containing many terms, or as a machine is liable to derangement in proportion to the multiplicity of its parts. In England our Medical system is hydra-headed; or, rather, like the herd of the Evangelist, possessed by a legion of ill-regulated spirits.

In France, the system is remarkably simple throughout, and hence the main characteristics which distinguish the systems on either side the Channel. On the one we have complexity and confusion—envy from a multitude of conflicting interests—injustice from undue preference, and a want of uniformity, which renders it impossible to place a fixed value on our medical denominations. We have Members and Licentiates who are not Doctors, and we have Doctors without a license to practise. We have Members, Fellows, and Licentiates, each claiming separate privileges, and from their privileges inferring a superiority of scientific rank, which, in its turn, they assert, infers superiority of talent or qualification. We have M. D.'s and M. B.'s, the only difference between whom consists in the colour of a cloth. In fine, we have some twenty or thirty Medical Mints at work in every corner of the kingdom, manufacturing Hippocratic coins, which neither bear the same stamp, nor are of the same value, though that which they are supposed to represent be one and indivisible.

In France, the system pursued is totally opposite, having for its object the production of a single class of Practitioners. all emanating from the same source, governed by the same laws, endowed with the same privileges, and, as nearly as circumstances will permit, representing before the public, the same amount of professional value.

Here we do not fall into the error of placing the cart before the horse, and testing the student's *preliminary* knowledge at the *end* of his career. Before matriculation, the student is compelled to take the degree of Bachelor of Letters, to obtain which a very moderate acquaintance with Latin, the elements of mathematics and natural philosophy, is necessary. He is thus prepared to understand the terms of his profession on the commencement of his studies. Unlike a Yorkshire doctor, of our acquaintance, who surrounded all cutaneous eruptions with an "Hariola," and placed the portis dura in the "Polipeteal space," once matriculated, the student's career is free to the end of his education. He pays a small sum quarterly towards the support of the Faculty during four years; has gratuitous access to all the Hospitals of Paris; is emancipated from the despotism of certificate-mongers *et hoc genus omne*, and, finally, having undergone a searching and practical examination in Medicine and Surgery, goes forth, under the title of Doctor, to practise his Profession in any part of the Republic, meeting every *confrère* as his equal, and everywhere accepted as a fully qualified practitioner.

On the other hand, the *pharmaciens*, or pure Apothecaries, are compelled by law,—and, indeed, incited by individual interest,—to confine their operations to the sale of compounds. No Apothecary, in any of the large towns throughout France, will make up the most trifling compounds—say salts and senna—without the prescription of a Medical Man. Hence the latter are called in for the most trifling affections, and, as their fees are extremely moderate—in the populous quarters seldom exceeding two francs, or 1s. 8d., everybody is content; the Physician because he has plenty of patients; the Apothecary, because he has plenty of prescriptions, and the public, because they obtain the best medical advice at a moderate cost.

And, let it not be imagined that the consideration of the Medical Man suffers from the modicity of his *honorarium*, or that the fee is inadequate to his comfortable support. For, on the Continent, a man's merit is not measured by the length of his purse; and ostentatious efforts to appear more than what you really are, instead of exciting admiration, merely elicit contempt. No one ever dreams of thinking that a carriage or a cook, servants in livery, and sumptuous fare—in fine, an establishment which, three times out of four, crushes the unfortunate aspirants—no one, we repeat, thinks of connecting these vanities with the practice of medicine. A simple and often poor apartment in an obscure court—a clean *bonne* to open the door—a few books to look like a library—a daily outlay of four or five francs—such is the capital of the Medical Man at the commencement of his career, and from this humble origin—if he have talent and good conduct—does he frequently rise to the highest rank in the commonwealth of medicine.

All this is effected through the agency of the "Concours;" and to the consideration of the influence of this admirable Institution on the progress of medicine we shall shortly return.

REVIEWS.

On Healthy and Diseased Structure, and the true Principles of Treatment for the Cure of Disease, especialy Consumption and Scrofula. Founded on Microscopical Analysis. By WILLIAM ADDISON, M.D., F.R.S. 8vo., pp. 320. London: Churchill, 1849.

Dr. Addison is well known to the Profession by his microscopic researches. The value of the microscope, as an aid in the study of the science of medicine, is beyond doubt. Ere many years have elapsed, the pathologist will be considered to be as unfit to undertake the examination of a body after death, unassisted by that instrument, as the Practitioner to treat pulmonary disease unaided by the stethoscope. The microscope bears the same relation to pathological that the stethoscope does to clinical investigations; it enlarges the field of our observation, and renders more precise the information gained. But at the present time there are men who sneer at those who habitually use the microscope, and taunt them with wasting their time on trifles, instead of devoting their energies to practical researches; as though whatever aided diagnosis was not necessarily practical. To the success of the treatment employed by the blind empiricist, and that devised by the rationalist, accuracy of diagnosis is equally essential, and, what is of far more moment, the labours of the man who endeavours to ascertain the value of therapeutic agents by induction are lost, till the diseases, his power of combating which he is testing, are defined by unequivocal limits. Accurate diagnosis is the foundation of all therapeutic researches, and, therefore, whatever affords assistance in diagnosis must practically advance the science of medicine. Our generation has witnessed the introduction of the stethoscope and the pleximeter, and the systematic application of chemical and microscopic researches to pathology. These, however, are but adjuvants to the methods of investigation employed by those who have gone before us; and the attempt to exalt either, above its true level, can only retard its general employment. Such was the fact with regard to the stethoscope, such has been and still is true with regard to the microscope. Dr. Addison, in our opinion, endeavours to assign to the latter instrument powers it does not possess, and, therefore, desirous as we are of seeing it occupy its true position, we cannot but regret his misdirected zeal.

The microscope takes cognizance only of objects of vision—form, and colour. Now, two bodies, which are homogeneous and colourless, and which to the eye, consequently, are identical, may be functionally very different; so that the microscope fails us when we proceed to an ultimate differential analysis, even visually considered. The protoplasma of the most different] structures, so far as the eye aided by the most powerful glasses can discern, are identical; and we distinguish them from each other only by the inherent difference in the function of each. If that function be to develope complicated structures, as cells, so soon as those cells are formed so soon can we distinguish the one blastema from the other, *i. e.* by the difference in the shape of those cells.

The protoplasma of cancer, of tubercle, and of ordinary adhesive tissue, is, so far as the microscope reaches, identical; but when respectively cancer cells, tubercle corpuscles, and fibrous tissue are developed, the eye is enabled to distinguish the one form of matter from the other, and we acknowledge that the blastemata from which they severally sprang were not identical.

Dr. Addison states, "results derived from microscopical researches, to be of practical utility must be admitted into the domain of therapeutics and cure." The microscope "will enable us to extend our remedies, and to suggest new physiological methods of treatment for the maladies of mankind."

Here we differ from him *in toto*. Microscopic research does not enable us to add one therapeutic agent to our catalogue, or to apply one already used in a manner different to that in which we heretofore employed it; but, what it does enable us to do, is to arrive at a diagnosis, without which we could not estimate the value of the remedy. Let us illustrate this statement; the propriety of removing a carcinomatous growth is an important medical

question; the microscope enables us to distinguish carcinomatous from all other tumours, which the unassisted eye does not; now, if every tumour removed by the surgeon as carcinomatous were examined by the aid of the microscope, we should, in few years, be in a position to determine, by a careful examination of the facts observed, the value of the operation. Our knowledge of the structure of cancer in this case sheds no new light on its treatment; but by circumscribing within precise limits the meaning of the word it enables us to estimate the value of the therapeutic means we are employing. The fact of young epithelium scales in some cases closely resembling cancer cells, and the very rare occurrence of undoubted carcinomatous tumours without diagnostic cancer cells, offers no practical objection to the above illustration.

Dr. Addison's theory of tubercle is, that it is "retrograde morphology." To illustrate and apply this definition of tubercle is the whole purport of the book before us; and if we can succeed in explaining to our readers the meaning of the above definition, they will at once comprehend all that the work contains having the slightest pretension to originality.

Dr. Addison has derived his theory from the doctrines of vegetable morphology. The leaf, our Author allows, is the primary organ of vegetation; the bractæ, calyx, corolla, stamina, ovaria, &c., are, according to vegetable physiologists, but metamorphosed leaves. If certain unfavourable external conditions, or some inherent defect in the constitution of the individual exist, this normal metamorphosis does not occur, but the leaf with its peculiar cell tissue, *i. e.* the primary organ of vegetation, occupies the place of the petal. If, however, the petal be but a metamorphosed leaf, and a leaf replace the petal, it is evident that there can have been in such case no retrograde metamorphosis, but simply a want or failure of metamorphosis. Passing by the inapplicability of the term "retrograde," we understand Dr. Addision to mean by the expression, when applied to pathology, a return to the embryonic structural elements in any part.

"Following the analogies in vegetable bodies, we propose," says he, "to demonstrate the law of development of the textures of the human structure, to show, that they all originate from the metamorphosis of cell-organisms in the embryo; and are displaced, interrupted, or go back to cell-organisms in scrofulous disease, phthisis, and ulceration."

And again—

"We simply prove, by microscopical demonstration, that in consumption and scrofulous disease, cell-organisms, characteristic of the embryo structure and of blood, re-appear amongst, and supplant the elements characteristic of the healthy adult texture."

And further—

"Scrofulous diseases express the retrogradation of a special texture to some earlier cell-type. And consumption is the retrogradation of the pulmonary or respiratory parenchyma."

If this be true, at least the structure of tubercular matter ought to be identical with that of some normal organic constituant of the embryo—we say at least, for, to prove identity there should not only be identity of visual organization, but identity of function. We assert, that tubercle is not identical in structure with any portion of the healthy embryo; although doubtless, the embryo at first resembles recently-formed tubercular matter, in so far as both are formed of "colourless cells and protoplasmatous matter." The microscope affords no means of distinguishing, as we have before observed, any difference in the homogeneous blastema or protoplasma —"that viscous mass which everywhere precedes the first solid formation;" but we think no doubt can be entertained, that the cells of tubercular matter possess characters which forbid their being confounded by the eye with any normal embryonic structure. Our readers will not wonder that Dr. Addison differs from Lebert as to the existence of cells proper to tubercle, when they compare the description of the corpuscles in question by the two observers; nor will those, unable themselves to ascertain the truth by personal observation, hesitate as to which they shall trust.

"In our observations," remarks the former, "almost all the cells of the most recent tuberculous matter have presented a coarsely granular appearance, being crowded with dark particles, apparently of a fatty or oily matter."

The corpuscles or globules proper to tubercle are thus described by Lebert—

"The constant and characteristic element of tubercle is the tubercular globule, which may be thus distinguished from every other primary element whether normal or pathological. It is rarely round or oval; although always irregular, it approaches, more or less, one of the above shapes. Its outline is usually angular, the angles being rounded when they are seen on one side; rather polyhedral when they float, which they must do in order that their surface may be seen distinctly. The surface, although irregular, is smooth, and granules are never observed sticking to it. The size of one of these globules varies as a mean between 1-140th and 1-120th of a millimetre. When the globules are somewhat ovoid, the average of their breadth is 1-130th of a mill, while their length varies from 1-120th to 1-160th. Their contents consist of a more or less transparent mass and molecular granules; these granules vary in number;—sometimes there are four or five, sometimes as many as ten and more. However, they are never as numerous as in granular corpuscles properly so called."

Now, taking the characters given above by Lebert as those diagnostic of the tubercle corpuscle, we maintain that there is no globule in the embryo identical with it, none to which the above description is literally applicable; and if, as we believe, our assertion be true, then does the theory of retrograde metamorphosis fall to the ground, and with it all the speculation built on its foundation.

But even if the globules observed in tubercular matter were identical in form with those normally existing in the embryo, still the *function of* the former, and of those seen in the embryonic structures are not identical, and, therefore, tubercular matter cannot be regarded as a retrograde metamorphosis in the same sense as the leaf which replaces, or stands in the stead of the petal, is a retrograde metamorphosis of a petal, for that leaf is, to all intents and purposes, a leaf in function as well as in microscopic structure.

We think Dr. Addison's mode of reasoning on this matter, may be syllogistically expressed, thus,—the embryo, when first visible, is composed of colourless cells and protoplasma; tubercle and the incoherent cell products of inflammation are composed of colourless cells and protoplasma, therefore the latter are identical with the embryonic texture. The fallacy lies in the fact, that the protoplasma and the colourless cells of these structures are not identical.

Such, then, is the basis on which Dr. Addison has raised the superstructure of his work. Let us examine a little that superstructure, and see if even the foundation had been correct, it could have supported any valuable conclusions, or if our Author, although he has started from an error, has managed to stumble on truth as he has proceeded in his labours; if he has added aught new or important to our literature of the symptoms, causes, or treatment of scrofula and consumption, already too redundant.

Having stated the views we have above criticised, our Author devotes the first chapter of the first part of his Work to Practical Physiology. In it we find the following practical information, that when serous membranes, *e.g.* the pleura and peritoneum, are inflamed they become covered with villi, such as "constitute the distinguishing features of a mucous membrane." Now, we know only one tract of mucous membrane covered with villi, viz., that of the small intestines; and, although we not unfrequently examined the serous membranes specified, after they have suffered from inflammation, we certainly have failed to detect on them any bodies identical in organization with the villi of the intestinal mucous membrane.

The process of growth is, according to Dr. Addison, "not a species of exosmosis through a structureless membrane with the genesis of cells from germs in the exudation, but a phenomenon of morphology." But we must doubt if he was not deceived by some optical illusion when he saw, as he informs us at page 43, the fibrous texture "become again corpuscular." So far as our observations extend, a cell once formed or developed into a fibre, never reverts to the cell condition.

Under the head of "Practical Pathology," which forms the second Chapter, is a section on inflammation, in which is the following statement:—

"A person is severely burnt. The exciting cause, a hot iron, acts momentarily and only once; but having acted, the morphological phenomena will ensue, new morphological elements will appear, and the living texture will disentangle itself from the dead.

"The sore of a burn in its granulation state is, strictly speaking, scrofulous."

That is, a healthy granulating ulcer is a scrofulous sore. To such of our readers as have experienced the difficulty of healing scrofulous ulcers, this statement will appear very misplaced in a chapter on *Practical* Pathology. Because the microscope exhibits no difference in the secretion from the surface of an ulcer in an undoubtedly scrofulous individual, and that from an ulcer the result of a burn in a healthy person, to declare that the two sores are identical, appears to us about as well-founded an assertion, as that water and alcohol are identical, because we can by aid of the microscope detect no difference between them; or that isomorphous crystals, the most dissimilar in composition, are the same, because the eye cannot discriminate them from each other.

Passing by the chapter on "Practical Psychology, in which our Author has

"Wrapped nonsense round
In pomp and darkness till it seems profound,"

while his

"Reason, like a pale-faced mummy stands,
With her arms swathed in hieroglyphic bands,"

we reach the Second Part, containing the Symptoms, Causes, Therapeutics, and Cure of Consumption; and in this Chapter, as if to console us for the depth of the last, we enjoy the lightest of reading.

The chest is divided vertically from front to back into two compartments by a membranous partition or fold of the pleura; on one side of this partition is placed the right lung, divided into three lobes; on the other is the left, divided into two; the place of the third being, as it were, occupied by the heart, *which lies on this side of the chest.*"

Yes, in a monograph on Consumption, published in 1849, the medical (?) public is informed that the heart lies on the left side of the chest, and, further, that "the air penetrates into the lungs through the *windpipe, a round tube which may be easily felt running down the front part of the neck,*" &c. &c. Throughout the whole of the Second Part there is not a single new fact, not an original idea.

With respect to "Therapeutics and Cure," the Law of Retrogradation, of which Dr. Addison supposes himself the discoverer, has enabled him to add but little, yet that little is extended over one

hundred pages. To prevent or arrest consumption in its early stage, we are directed to remove irritating conditions, and to use "judicious measures." In the more advanced stage, if we "confine our expectations within the limits of natural laws," we are told, that "we may hope to arrest the progress of a retrograde metamorphosis, *by promoting the fibrous type in the secreting walls* of cavities;" that is, we are to replace the cavities by fibrous bands, cartilaginous cicatrices, &c., and then alter the constitution. But how? "In the cure of consumption, we demand an alterative that shall promote a change of structure, and alter a morphological type; that, meeting with an unnatural cell-growth, shall arrest it, and give opportunity for the vis medicatrix, absorption and fibrous cure, to come effectually into play."

Tubercle, says Dr. Addison, is a growth; "mercury, arsenic, and agents of the like nature, readily interfere with and stop growth." All the practical or theoretical hints as to treatment we have been able to gather from this, the longest chapter in the book, may then be thus summed up; in the first place, we are to remove irritating conditions, and use judicious measures—*i.e.*, place our patients in favourable hygienic conditions; and, secondly, we are to check the growth of tubercle by mercury, arsenic, and agents of the like nature. The latter part of this treatment is founded on the assumption that tubercle is a growth. Now we are prepared to affirm, that tubercle is not a growth. One of its characteristics is, that, once formed, it has no power of increase within itself,—it never grows; true, it first appears as a point, and is afterwards a large mass, but such increase in size is purely mechanical. If, then, Dr. Addison has found by *experience* that mercury, arsenic, &c., are curative agents in phthisis, that they favour the healing of cavities, &c., they must have acted in some other way than by checking the growth of tubercle, for that most assuredly never grows.

From this analysis we think we are justified in particularizing a general statement we made above, by asserting that the microscope has failed in the hands of Dr. Addison in adding one new remedy to our catalogue of therapeutic agents, in suggesting even one new mode of treating the diseases he has discussed.

In conclusion, we may add, that nothing but a desire to save the microscope from the contempt which such a production was likely to bring on it would have tempted us to enter so fully into the demerits of Dr. Addison's Work on Consumption and Scrofula.

CHOLERA CORRESPONDENCE.

DR. BRITTAN'S CHOLERA VIEWS.

SIR,—It is not my intention in this communication to attempt by any means to deprive Dr. Brittan of the honour due to him for his supposed discovery of the causes of cholera. Still I think I am bound, in justice to myself, to say, I had concluded from the long series of microscopic observations I have been making for some years past, that whenever the cause of Asiatic cholera was discovered, it would be traced to fungi. My microscopic observations have been conducted as an amusement; and I have found, in pursuing them, that the principal diseases incidental to the vegetable world may be traced to fungi. The question then resolved itself—May not the animal creation be subjected to similar attacks?

My ideas had been communicated, during the last two months, to many non-professionals persons; but, on the morning of Sunday, Sept. 23rd, having had occasion to call on my medical adviser, S. Brougham, Esq., of this town, I, in the course of conversation, mentioned to him my ideas on the subject of cholera, and put several questions which I considered bore on my views. He informed me he had not, in his practice, met instances to enable him to give positive replies; but if I would commit my queries to paper and give them to him, he, being a subscriber to the *Medical Times* Journal, would forward it, and, no doubt, amongst the very numerous subscribers to that Journal, satisfactory replies would be obtained.

Being confined to my house and bed, from Monday, September 24, to Monday, October 1, I had no opportunity before now of submitting my queries to paper. Last evening Mr. Brougham paid me a professional visit, and then informed me he had seen a Report in the *Medical Times* he had just received, which bore on the subject I had mentioned to him *the week before*, and would lend me the Paper for the evening, which he did. Not being of the Medical Profession, it was the *first time I had ever seen the Medical Times, and the first time I had heard of the question of fungi being entertained by any other person than myself.* I have not, in the slightest degree, brought this subject forward with a view of snatching the laurels from Dr. Brittan's brow to place on my own—I have not the slightest pretensions to that. Dr. Brittan is entitled to every honour and credit for his researches, which appear to have been conducted in a systematic and scientific manner, and to entitle him to the homage of every well-wisher to his fellow-man. I have brought it forward only with a view of showing that similar ideas may strike persons unacquainted with each other, or even connected in the same branch of science.

Fearing I may be trespassing too much on your valuable space, at the same time hoping you will favour me with the insertion of the following queries, in which I feel interested, I subscribe myself,

Sir, your very obedient servant,

E. GILBERT, Civil Engineer.

Falmouth, Oct. 1, 1849.

QUERIES.

1st. Has there ever been a correct analysis of the discharges from the stomach or bowels of a cholera subject *in the different stages of the disorder?* If so, was the liquid properties an acid or an alkaline?

2nd. Has there been an analysis, or any observations recorded of the nature of discharges from the stomach or bowels of a patient who may have been poisoned by eating fungi, *i.e.*, the mushroom family? And what appearance did the patient present when labouring under the effect of that poison *just before* and after death?

3rd. Has there ever been an analysis of the discharges from the bowels of a subject labouring under the effects of a violent diarrhœa? If so, did it partake most of an alkaline or an acid character.

E. G.

[The priority of having first entertained the idea that cholera depended on the presence of fungi in the atmosphere must be accorded to Professor Mitchell, of Philadelphia, whose ingenious work on the Cryptogamous Origin of Fever, Cholera, &c., we reviewed three weeks since. His views were imbodied in a course of lectures delivered at the Jefferson Medical College during the session 1846—1847. In the Introduction he thus addresses the gentlemen who, at that time, composed his class:—"To you I had the honour of delivering, nearly in their present shape, the lectures which I now send to the press. Previously, I had not put my ideas on the subject of which they treat into so formal a shape, although I had announced *for years* to each successive class, my impression that, possibly, the photophytes might afford a good explanation of the causation of malarious and other diseases of a febrile nature. Of the production thus, at least, of yellow fever and cholera, I entertained less doubt, and taught, therefore, the sentiment with less reserve." And further on, he continues: "Experiments are in progress, which seem to promise more direct and unquestionable proof of the validity of our hypothesis."

In this country, Dr. Cowdell, of Dorchester, published, in 1848, and before he was acquainted with Professor Mitchell's labours, a fungoid hypothesis in a clever and interesting work entitled, "A Disquisition on Pestilential Cholera, being an attempt to explain its Phenomena, Nature, Causes, and Treatment, by reference to an extensive Fungoid Origin." To this, and to Dr. Mitchell's work, we would refer our correspondent.

In answer to our correspondent's queries, we may inform him, 1st., Dr. E. A. Parkes, Professor of Clinical Medicine at University College, examined stools passed by Cholera patients in the diarrhœal period, the early algide stage, the moderately developed algide stage, the intense algide stage, at the commencement of re-action, and during relapse. In every case they were alkaline. See an able paper by that gentleman, in No. II. of the *London Journal of Medicine*.

Professor Hermann, of Moscow, in 1832, on the contrary, found that they had an acid re-action, and resembled the vomited matter, in which he stated, that he detected free acetic acid. All other writers concerning the former and present epidemic, so far as we know, agree with Dr. Parkes.

2nd. Professor Mitchell thus sums up the phenomena attendant on the introduction of a fungous poison into the system. After a time "it excites a morbid action of a febrile character, continued in some cases, remittent or intermittent in others, which is followed by abscesses or gangrene, and occasionally by locked-jaw and yellow skin." For more detailed accounts, we must refer our Correspondent to Pereira's "Materia Medica," and to Dr. Christison's "Toxicology." We are not acquainted with any recorded analysis of the matter discharged from the stomach or bowels of a patient poisoned by fungi.

3rd. In bilious diarrhœa, Simon states, the stools have a strong acid re-action. Dr. W. B. O'Shaughnessy said, in 1832, "of more than 100 cases of ordinary diarrhœa the dejections examined by me presented *no single* character of the cholera evacuation." Dr. O'Shaugnessy found the stools invariably alkaline in true cholera.

Let the writer of the above letter understand, that of medicine the saying *is true*:—

"A little knowledge is a *dangerous thing*."

And that, if a man would avoid inflicting injury on his fellows, he must

"Drink deep or taste not."

Men who are blind may walk on turnpike-roads, and think that they are treading unknown regions, because they cannot see the mile-stones and the way-posts placed there for the benefit of those whose eyes are open; and he who journeys through unknown and intricate paths, in darkness and without a guide, will very rarely, indeed, reach the point at which he aims.—ED. *Medical Times.*]

LETTER FROM HENRY W. LIVETT.

SIR,—I send you the following facts relative to the recent outbreak of cholera here, for publication in your journal, should you think their bearing upon the "*questio vexata*" of contagion sufficiently interesting to your readers.

On the 2nd of September I was called up at about six a.m. to see a woman named Pike, who had been taken suddenly ill a few hours before. I found it to be a well-marked case of spasmodic cholera, and it proved fatal in twenty-two hours. An inquest was held on the body, but as there was a great disinclination in the townspeople to admit that cholera had really appeared, the jury returned a verdict, contrary to my opinion, of "Died from protracted diarrhœa." The mother of this woman (case No. 2) came from a village eight miles distant, and nursed her for a few hours previous to her death; the mother lodged in a clean and different part of the town, was attacked by cholera on the 6th, and died in twenty-four hours. The linen belonging to the first case was washed in a house quite at another end of the town; and there, on the 6th, two cases occurred, both fatal; one in five hours, the other in eighteen. The linen was ironed in the adjoining house, and there, and in three following ones, one fatal case occurred in each house within two or three days. An old woman living about a mile out of town, nursed and laid out after death case No. 2, and was herself attacked on the 10th, and died in thirty hours. From that period to the 20th I had seven cases (two fatal), five of which occurred in the families of persons *related to those previously deceased*, and above enumerated. These cases occurred in *various localities*. No case has occurred since the 20th. I may add, that four cases were attended by other medical men during the above period, all fatal, but I believe not connected with those I have named.

We have, therefore, had in Wales, in the three weeks, nineteen cases; thirteen of which can be distinctly traced to the first, the woman Pike. In no other way can I account for the disease appearing as

it did, almost simultaneously in various quarters, the only persons attacked having been in personal attendance upon the dying and the dead, for a short period, a few days previously.

I will not enter into details respecting these cases, nor the treatment; contenting myself with the bare facts, satisfied that they are in themselves sufficient for the consideration of your readers.

I am, Sir, your obedient servant,
HENRY W. LIVETT.

Wells, Somerset, Sept. 27, 1849.

LETTER FROM JOHN W. HUNTER.

SIR,—I trust I may be excused for sending you the following mite of experience relative to that *questio vexata*, the treatment of Cholera. I have been called upon to attend only three distinct and unequivocal cases of that disease, all exhibiting, however, those characteristic and intense symptoms, indicating the greatest danger, viz., violent retching and vomiting, constant stools, icy coldness, most painful cramps, altered and Hippocratic physiognomy, scarcely perceptible pulse, blue skin, and black nails.

I strictly followed up the saline treatment, as recorded by Dr. Stevens, in the *Medical Times*, September 1st, applying, in addition, external heat and mustard plasters to the stomach. I was both pleased and surprised at the speedy effects of the treatment, as a few hours' perseverance procured complete relief of the most painful and dangerous symptoms. A less frequent use of the remedy in a few days rendered the first two patients convalescent.

The third case was a patient above seventy years of age, a constant invalid, and reduced by sickness and disappointment previously, so that she sank from exhaustion; yet I consider the saline treatment *so far succeeded* that the vomiting and cramps were greatly diminished and the warmth restored.

At a time of such serious alarm and mortality from this disease, I may perhaps be pardoned for making a few further remarks. The above three cases may be thought to go for nothing, but the *speedy effects* of the saline treatment, in each individual case, were to me astonishing, and seemed marvellous to the first two patients and their friends; for, without my drawing it from them by questioning, they have subsequently volunteered their convictions as to the efficacy of the "salt," contrasting the results with what has occurred *within their own observation*, to patients treated with "brandy," *i. e.*, probably the stimulating treatment, with or without calomel or opium, viz., that all those persons attacked with cholera about them, twelve in number, and treated with "brandy," had all died.

In the more ordinary forms of diarrhœa, I have also found the saline treatment equally beneficial in relieving the irritation, and restoring the healthy action of the alimentary canal.

I beg to remain, Sir,
Your obedient servant,
JOHN W. HUNTER.

30, Wilton-place, Belgrave-square.

THE MEDICAL PROFESSION AND THE POOR-LAW.

[To the Editor of the Medical Times.]

SIR,—You have done me the honour to notice with approval, a recent attempt of mine to plead the cause of the industrious working man, *versus* indiscriminate almsgiving and the Poor-laws. Will you allow me to invite your attention to what appears to me a very grave question. Is the Medical Profession interested in the maintenance or repeal of the Poor-laws? One thing may, I believe, be taken for granted in discussing this question; namely, that the present scale of Poor-law remuneration is so low, as to be in most cases no remuneration at all. Now, if we suppose the Poor-law to be abolished, the Medical man benefits as a rate-payer, to the extent of his Poor's-rate, whatever that may be; so that the question assumes this practical shape:—If the Poor-law Medical Officers were to cease to be employed as such, in consequence of the repeal of the Poor-law, and the rates they now pay were left in their pockets, would they not be gainers by the change? Some will answer this question one way, some another. Those who are most liberally paid, and whose rates are most moderate, will probably discover that they would be losers by the change. To these parties, then, I address myself. I think I may safely assume that, when their balance of profit and loss is struck, they do not find themselves much the richer for their Poor-law stipends; and I feel confident of being able to prove to them, that their few pounds of surplus would accrue to them, after the repeal of the Poor-law, in a much more agreeable way, and with sure addition. In the first place, there are many persons, in every part of the country, (and their number is increasing since the Government were so foolish as to defray half the expense of medical attendance out of the Consolidated Fund,) who get orders for medical relief, being all the time in a condition to pay for medical attendance, and who would be better paymasters than the Union. Again, it must be borne in mind that the sum raised annually for the relief of the poor goes to impoverish the medical man's natural customers, many of the smaller rate-payers being, as everybody knows, just on the very brink of pauperism themselves. And what is the sum thus annually deducted out of the labour-fund to be expended in workhouses? It is, in round numbers, about six millions of money. Of this immense sum, if allowed to be expended out of the workhouse in preventing pauperism, instead of being spent in it, in petting and coddling, in a fantastic, tyrannical sort of way, the victims of the Poor-laws' immoral teachings and mischievous temptations; of this immense sum, the Medical Profession would certainly have a very fair share, at the same time that it would partake of the prosperity engendered by that large portion of the six millions which would be spent reproductively. I dare say, many of your readers, perhaps, even yourself, will be somewhat startled at the idea of following up the repeal of Protection to *British Industry* by repealing the *Protection to British Idleness*, especially as Ireland has lately had a Poor-law forced upon her as a panacea, and our most influential organ of public opinion believes in this strange remedy as devoutly as many a fanciful valetudinarian in the virtues of Homœopathy. But, Sir, in the face of all this weight of precedent and authority, not forgetting our own excellent Dr. Alison's pleadings in its favour, and Lamartine's recent attempt to introduce the system into France, I still contend, with Malthus and Chalmers, and the author of the "Original," that a Poor-law is a delusion and a snare, and a source of degradation to all who have to do with it. Pray let the Profession have your views on this subject, and oblige, Sir, Your obedient Servant,

A LONDON PHYSICIAN.

NECESSITY OF MEDICAL REFORM.

To the Editor of the Medical Times.

SIR,—There is no other illegitimate trading on the community so dangerous and so tolerated as quackery; and this is a matter for grave astonishment, when we think of the general devotion to every pursuit and object which can promote health and prolong life. That victims follow the nefarious traffic of the selfish pretender who lives upon credulity and failing health, there can be no doubt; that this monster evil will work its cure by its own growth, by its enormities becoming too flagrant to be tolerated, 's the only consolation that arises from its daily increase and thriving prosperity. In reading a book -"Confessions of a Hypochondriac"—which teems with denunciations against quackery, I met with the following suggestive paragraph; it is true and pertinent, and worthy of consideration:—"The House of Commons is sensibly indifferent to the interests and rights of the Medical Profession." Mr. Wyld, M.P. for Bodmin, uttered this notable fact the other day at the London Tavern. A political body has no great concern for a civil body of no political importance. It is nothing wonderful. In proportion to power is respect ever doled out. But, are not 30,000 men (is not this an over-high calculation) of acknowledged talent moving in all ranks, from the Prince to the peasant, a staple Company for good or evil? Have they not a power? Is it not growing daily by union and action? The power which knowledge gives. Let them but press the members for boroughs, cities, and counties, on their just rights, and truth backing them, they are not so powerless a body that they can be treated with inattention. "We have been promised a Medical Bill!" A consummation most devoutly to be wished. When shall we have it? We have had a sad and long experience of indifference, and is it not the result of our want of political weight in the State? No one would wish the Profession to become a so-called political body, making common cause with the Manchester or any other school; but it would be desirable to have the power to avert the injury and insult of neglect suffered Session after Session. The law's delay is ceasing to be a proverb. The delay of redress for professional grievances has become proverbial. If we cannot embark on the troubled waters of politics, as a body, we should endeavour to acquire our just rights as individuals. By disunity we are powerless; our strength is frittered away by want of unity in action; by the neck-and-neck competition, which places us too much in collision with each other, and at the mercy of every pretender—the Government official and the tolerated Charlatan. Division is the grand secret of our ill success. You, Sir, have often appealed "on the necessity of unity," and too much in vain. The history of politics teaches us how much is done from without; that our lethargic representatives only move when goaded into action by the public and the Press. Why, then, should we not resort to every expedient that can awaken attention? I believe, if the Medical Profession stir, a political position will be easily attained, placing us above the mercy of "the slow movement," and, by a county organization, which would entail no expense, an attention to our wants and rights would be called into life by the next Session, sufficient for every purpose. Personal knowledge and communication have an urgent *prestige*, and nothing would interest M.P.'s individually, like petitions from parties, who must be known to them, upon the rights of the Profession, and the immense injuries inflicted on the public by the present deplorable state of the law.

I remain, sir, yours truly,
CHIRURGUS.

Bristol, Sept. 12, 1849.

THE IRIS A TEST OF THE STATE OF THE CONSTITUTION.

[To the Editor of the Medical Times.]

SIR,—I have, for some time past, been in the habit of regarding the eye as the best test of a patient's constitution; and the result of my observations has been to convince me that the nearer the Iris approaches to a firm, clear-looking, and unmixed colour, (black, blue, and, *perhaps*, hazel,) the healthier and sounder is the constitution. Whenever the Iris presents the appearance of a *broken network*, or the colour is a light watery-looking one, or deposited in darker patches in some places than in others, there is a corresponding degree of delicacy of constitution. Whenever there is an appearance of red, green, or yellow in the Iris, the diseases under which the patient suffers always exhibit an obstinate or malignant character, more especially when the red or green is present. Such persons, moreover, always beget unhealthy children; and we may generally expect to hear of much ill health, serious and obstinate illnesses, and premature deaths occurring in their families.

It is known to the Profession, that an Iris which is wholly red indicates the cancerous diathesis,—a circumstance which I had myself noticed before I was aware of its being already known,—but I believe that the appearance of the light Iris, which answers to the red of the dark one, has not been pointed out, it is the following:—A peculiar hard, pearly, grey look, and, if the eye be closely examined, there will be found immediately around the pupil a circle of a more or less red hue. Moreover, instead of the appearance of a net-work, in which a mesh had broken, leaving a large nearly square space, such as we may see in the light scrofulous blue Iris, there will generally be low, narrow places, giving the idea of the substance of the Iris having been there corroded away: the worse the state of health the darker, thicker looking, and more distinct will be the outer margin of the Iris.

We not unfrequently meet persons having a greenish Iris, who will boast of never being ill, and of being able to undergo considerable fatigue. Such persons are generally stunted in stature; and, in the few instances in which the reverse is the case, they will be found to show signs of failing health soon after thirty, if not before; and, should inquiry be made, it will most probably be found that they are descended from parents, one or both of whom have exhibited marked signs of having an unhealthy constitution, (consumption, epilepsy, &c.) and among their brothers and sisters obstinate affections and diseases of debility will prevail.

I have pointed out the foregoing appearances of the Iris, and the inferences derived from them, to several medical men, to each of whom they were new; this induces me to trouble you with them.

I remain, Sir, your obedient Servant,
GEORGE FEARON, M.D.

Great Charles-street, Birmingham,
September 27, 1849.

INTRA-MURAL BURIAL GROUNDS.

[To the Editor of the Medical Times.]

SIR,—I beg to enclose a copy of the Petition to the Board of Health, drawn up and signed by the Medical Practitioners in St. John's district, Paddington. The grave-yard in question has been

established rather more than eighty years; the average number of burials is 1,200 annually; and during the last ten weeks, 358 have been interred. The ground extends over rather more than five acres, one acre being set apart for the opulent, appears to be but little used. No plan is kept of the relative position of the graves, thus compelling the sexton to resort to the process of "boring" to find a spare place for the next comer.

Trusting our Medical brethren in other districts will unite, in a similar manner, to prevent intramural burials,

I remain, Sir, your obedient servant,
J. Drury, M.D., Hon. Sec.
44, Albion-street, Sept. 20, 1849.

TO THE GENERAL BOARD OF HEALTH.
9, Cambridge-square, Hyde-park,
Sept. 15, 1849.

Gentlemen,—We, the undersigned Medical Practitioners in Paddington and its vicinity, respectfully call upon the Board of Health, to exercise the power with which they are invested, for the purpose of closing the burial-ground of St. George's, Hanover-square, situated in the very heart of this populous neighbourhood.

Firmly convinced that intramural burial-grounds are at all times most prejudicial to the public health, we feel that they are more especially so at a time when the metropolis is afflicted by an unexampled visitation of epidemic cholera.

We, moreover, respectfully urge our petition on account of the notoriously over-crowded state of this particular burial-ground, and indulge the confident hope, that your honourable Board will at once terminate a nuisance, which evidently tends to poison the atmosphere, and to produce the most baneful consequences in this otherwise healthy locality.

(Here follow the signatures of forty-one Medical Practitioners.)

MEDICAL NEWS.

Apothecaries' Hall.—Names of gentlemen who passed their Examination in the science and practice of medicine, and received certificates to practise, on Thursday, Sept. 27, 1849:—John Warren Edger, Kirkby Stephen; Edmund Carver, Melbourne, Cambridgeshire; George William New; Edmund Emra Earle, Bristol; Thomas John Sayer, Keinninghall; George Gibson, Butley, near Gateshead.

Obituary.—At Madras, on the 26th of July, Dr. J. Uppleton, late of Greenwich, of dysentery. On the 1st inst., at North-end Cottage, North-end, James Edwards, Esq., M.D., aged 69, late of Canterbury, and formerly of Putney. Sept. 13th, at Kennitty, King's County, deeply and deservedly lamented, in the prime of life, of brain fever, after a few days' illness, James Willington Walsh, Esq., M.D., Fellow and Licentiate of the Royal College of Surgeons in Ireland, Medical Superintendent of the Kennitty Dispensary and Temporary Fever Hospital.

London Orphan Asylum.—The vacancy occasioned by the lamented decease of Mr. Charles Aston Key, as Consulting Surgeon of this valuable Institution, has been, by a unanimous vote of the Board, filled up by the election of Mr. Thomas Blizard Curling, the recently elected Surgeon to the London Hospital.

The Cholera.—This fatal epidemic continues to decline both in London and in the provinces. The reports from the provincial towns are, on the whole, favourable, though at Bristol the mortality continues very high. The Registrar-General's Report is as follows:—

It is gratifying to observe the further abatement of pestilence in London. After the first week of September, in which the fatality from cholera was greatest, and 3183 persons died from all causes, the total number fell in the second week to 2865, then to 1981; and in the week ending last Saturday, the total deaths registered were 1611. During the same period the weekly numbers of lives destroyed by cholera have been 2026, 1682, 839, and in the last week 434. Diarrhœa was fatal successively to 272, 280, 238, and last week to 163. In comparing the returns for the last two weeks, the decline of mortality is most obvious in the south districts, where the deaths from cholera have fallen from 422 in the week ending September 22, to 161 in the last; and, to take the most striking examples of particular districts, in St. George's, Southwark, they declined from 58 to 10, in Newington from 66 to 15, and in Lambeth from 117 to 50. In the north and central districts the improvement is also remarkable, in the former the deaths from cholera in the two weeks having been consecutively 71 and 37, and in the central having been 95 and 51. The improvement in the east districts is not so great, the 183 deaths of the previous week having fallen to 113 in the last; but in the west districts the public health has recently been stationary, the weekly deaths caused by the epidemic having been 68 and 72, though here too a great change has taken place for the better in the latter half of September as compared with the former. In the whole metropolis the daily number of deaths from cholera last week has fluctuated between 102 and 56, but showing an almost constant tendency to fall. The mortality from small-pox, measles, and scarlatina is much less than the average; from whooping-cough it is near the average; typhus has recently shown a slight increase.

Explosion of a Sewer in the Borough.—On Saturday evening, about six o'clock, a fearful explosion of sewer-damp happened in Friar-street, in the Borough; there were, happily, no lives lost, though the shock of the explosion was felt at a considerable distance round the neighbourhood. The cast-iron plates, covering the man-holes in the flag-pavement in Friar-street, were all blown into the air, and flames came through the gully-gratings into the streets. It appears that the sewer in Friar-street has been in a most pestilential state for some time, and cholera is prevailing immediately around it to an alarming extent. Notwithstanding repeated complaints had been made, nothing had been done by the Commissioners, and on Saturday Messrs. Anderson and Cally, soap-boilers, were prevailed on by some of the inhabitants, in despair, to attempt to draw off the pestilential vapour by connecting a pipe from the sewer with one of their chimneys. All went on apparently well for about half an hour, when the explosion occurred.—[We cannot wonder that fatal diseases should prevail to a great extent where the sewerage and drainage are so defective. With the cholera in our midst, entailing Herculean labours on the members of the Medical Profession, the non-medical officials in the Metropolis, appointed to carry out sanitary improvements, have done little or nothing for good. The foul sewers of the Metropolis are sources of most malignant diseases, for, as we learn from what has taken place in Friar-street, such noxious gases are generated, that if not allowed continually to escape they accumulate to such an extent that the slightest circumstance is sufficient to cause them to explode.]

The Commissioners of Sewers and Mr. Simon.—The diligence and faithfulness of the City Medical Officer of Health and the staff under his superintendence, do not appear to please some of the Commissioners; and a Mr. H. L. Taylor, on Tuesday last, complained that Mr. Simon had depended for his information not upon what he had himself observed, but upon the statements of parties with whom the Corporation had nothing to do, who ought not to be recognised, and whom he was sorry to see encouraged. This wise gentleman, we suppose, imagines Mr. Simon to be ubiquitous, or that he possesses as many organs of vision as Iris, and as many arms as the far-famed Briarius. The Officer of Health alone could not detect and expose all the nuisances of the City; hence he has properly associated with him a number of Medical men. The fact is, that the exposures which these have recently made, have offended Mr. H. L. Taylor, and others of whom he is the representative. We hope, however, that Mr. Simon and his coadjutors will continue fearlessly to expose and denounce whatever they find in the City calculated to injure the public health.

Presentation of a Testimonial.—It affords us much gratification to record instances of public respect paid to the members of our Profession, for the faithful and efficient discharge of their duties. No class of men make greater sacrifices for the benefit of others than Practitioners of Medicine. Yet it is singular, that while on the Continent Governments have occasionally rewarded them with titles and pensionary gifts, in our own country the Medical Profession is almost entirely overlooked by the Executive, and the public too frequently think their services rewarded by a small fee. We are glad to mark indications of a better state of things, and more especially do we rejoice that the poor are taking the lead in paying public respect to their Medical attendants. An instance of this kind occurred about a fortnight ago at Kingswood, near Wotton-under-Edge, where a public meeting was held in the school-room, for the purpose of presenting to Mr. W. J. Hill, surgeon, of Wotton-under-Edge, a very handsome silver salver, together with a purse of sovereigns, as a testimonial of gratitude to him for his unwearied and successful exertions during the recent prevalence of the cholera, especially in his gratuitous professional attendance on the poor. This testimonial originated in the grateful feelings of the working men, and was completed by their persevering exertions. Several of them spoke on the above occasion in a manner which did equal honour to their heads and hearts. The Rev. G. S. Weidemann, incumbent of the parish, presided on the occasion. The salver cost 25*l.*, and bore the following inscription:—"Presented to William James Hill, surgeon, by the inhabitants of Kingswood, as a token of respect to him for his benevolent, unremitting, and gratuitous exertions during the prevalence of the cholera. A.D. 1849." About 300 persons were present.

Irish Peat Charcoal and the Sanitary Reform of London.—On Monday evening last, an important meeting was held at the Rooms of the Mechanics' Institute, Southampton-buildings, Chancery-lane, on the invitation of Mr. Jasper W. Rogers, to witness his process for deodorisation and consolidation of the fetid liquid mass of the sewers of London, which has lately materially assisted, if it has not originated, the fatal cholera. The meeting consisted of about 500 persons, among whom were some of the most scientific men in London, and several foreigners from Paris and elsewhere. The day fixed being that on which most of the inaugural addresses were delivered at the London Hospitals, after which the members dine together in Hall, many scientific men were prevented from attending, who expressed their regret through parties who were present. The plan adopted by the meeting for testing the principle advocated by Mr. Rogers, was the time-hallowed one of "trial by jury." A chairman was selected at hazard, and of the eight jurymen "summoned" by the meeting, only one was personally known "to the prisoner." Dr. Alfred King, 21, Lower Calthorpe-street; Mr. Lyon, Secretary to King's College Hospital; Mr. Griffith, surgeon, 1, Bloomsbury-place; Mr. T. A. Yarrow, C.E., Cheshire, and 18, Adam-street; Mr. Nesbett, accountant, Winchester-house, Old Broad-street; Mr. D. Walker, M.A., Maidstone College; Mr. Swinburne, barrister, 11, South-square; Mr. G. Garnett, 130, Jermyn-street, Commissioner of Paving; Mr. Nesbit, analytical chemist, Agricultural Academy, Kennington—were the parties empanelled. The investigation was proceeded with, most cautiously and critically, and the materials weighed before and after the experiment. Bags containing samples of the apparently dry deodorised matter were also freely circulated among the spectators. The jury delivered their opinions *seriatim*, resulting in an unanimous opinion that Mr. Jasper Rogers had fully demonstrated his proposition, and that the experiment had been most eminently successful. Several of the jury stated that they had come to the meeting, aware of a portion of the principle as appertaining to animal charcoal, but sceptical as to the results predicted by Mr. Jasper Rogers with peat charcoal. On Mr. Rogers presenting himself to the meeting after the verdict, he was most enthusiastically cheered, and was highly complimented on the fairness with which his experiments had been conducted.

English Gratitude.—A few days ago, a medical man was passing through the Quartier St. Germain, in Paris, when he was attracted by a crowd, in the midst of which he found a poor Englishman smitten by an attack of apoplexy. He hastened to

render him the assistance that medical aid could afford. The next day the medical man called upon his patient to inquire how he felt. The Englishman asked him what he was to pay. The doctor replied ten francs for two visits, at five francs each. "Oh," cried the Englishman, "my life is worth more than that;" whereupon he handed the physician a cheque for 500 francs.—*Paris Paper.*

PRUSSIAN MEDICAL STATISTICS.—In Prussia the population is 16,110,000; and there are 5,137 civil physicians, 351 military physicians, 827 surgeons of the first class, 1,144 surgeons of the second class, 1,423 apothecaries, and 11,539 *female* midwives.

THE PROFESSION IN TURKEY.—The so-called *barbarous* Government of the Sublime Porte actually pay their medical men. The duty of those who thus receive salaries from the State, is to visit both the rich and the poor, or to receive them at their own abodes; they are to accept no fees from the poor, and are punished if they confine their practice to the rich. Every three months they are obliged to furnish to the constituted authority certain statistic accounts of the number of their patients, the nature of their cases, and the results of the treatment; the history of epidemics, and the observed meteorological phenomena. The regulations concerning interments without the city, are such as ought to put to shame nations who are given to boast of their civilization.

EGYPTIAN OPHTHALMIA.—Dr. Pruner attributes the frequency of ophthalmia in Egypt—1st, to ammoniacal exhalations from the earth; 2ndly, to the irritating nature of the sands of the desert; 3rdly, to the unequal distribution of light in the houses and in the streets; 4thly, to the sudden alternations of temperature.

THE PLAGUE.—The *Gazette du Midi* of the 15th, contradicts a rumour which had been afloat at Marseilles, that the plague had made its appearance first at Fiume, and afterwards at Trieste. No intelligence of the existence of the malady on the shore of the Adriatic had been received at Marseilles, either by the Consular body or the *Intendans de Santé*. What has given rise to the report, is the appearance, in a village near Fiume, of a disease called scarluppo, a sort of cancer which attacks the face, and which the people of the country call plague. The horror inspired by such a malady causes a sanitary cordon to be established, and by that means it does not go beyond the locality where it first breaks out.

MORTALITY TABLE,

(Metropolis.)

For the Week ending Saturday, Sept. 29, 1849.

CAUSES OF DEATH.	Total.	Average of Five Summers.
ALL CAUSES	1611	1008
SPECIFIED CAUSES	1607	1005
Zymotic (or Epidemic, Endemic, and Contagious) Diseases	782	302
SPORADIC DISEASES:		
Dropsy, Cancer and other Diseases of uncertain or variable seat	46	44
Tubercular Diseases	167	190
Diseases of the brain, Spinal Marrow, Nerves, and Senses	114	119
Diseases of the Heart and Blood-vessels	48	29
Diseases of the Lungs, and of the other Organs of Respiration	128	81
Diseases of the Stomach, Liver, and other Organs of Digestion	58	76
Diseases of the Kidneys, &c.	7	11
Childbirth, Diseases of the Uterus, &c.	11	7
Rheumatism, Diseases of the Bones, Joints, &c.	9	7
Diseases of the Skin, Cellular Tissue, &c.	...	2
Malformations	3	3
Premature Birth and Debility	26	22
Atrophy	36	23
Age	57	43
Sudden	39	8
Violence, Privation, Cold, and Intemperance	70	36
Causes not Specified	4	3

The following is the number of Deaths occurring from some of the more important special causes:—

Apoplexy	28	Heart	44	Phthisis	99
Bronchitis ...	44	Hooping-cough	20	Pneumonia ...	68
Cholera	434	Hydrocephalus	29	Scarlatina	30
Childbirth	4	Influenza	1	Small-pox	8
Convulsions...	40	Liver	12	Stomach	2
Diarrhœa	163	Lungs	6	Teething	8
Dropsy	16	Measles	13	Typhus	72
Erysipelas ...	9	Paralysis	19	Uterus	6

BIRTHS AND DEATHS.

	Births.	Deaths.	Deaths over Births.
Males	787	825	38
Females	739	786	47
Total......	1526	1611	85

METEOROLOGY OF THE WEEK.

Day.	Mean of Barometer.	Mean of Thermometer. Dry.	Ditto. Dew Point.	Difference between the Mean Temperature of the day and the same day on an average of 7 years.	General Direction of Wind. A.M.	General Direction of Wind. P.M.	Amount of Horizontal Movement of the Air. Miles.	Rain in Inches.	Electricity.*
Sunday	29·780	55·3	52·1	−1·0	N.E.	N.E.	15	0·10	Nothing shown.
Monday	29·727	55·2	54·5	+4·5	N.E.	Calm.	5	0·01	P. and tension strong at 9 p.m.
Tuesday.....	29·723	57·6	43·9	+4·4	Calm.	E.	35	0·00	P. and tension variable
Wednesday.	29·701	56·1	55·0	+3·3	E.	E.N.E.	75	0·01	P. and tension strong at 9 p.m.
Thursday ...	29·625	62·2	54·1	+9·9	E.N.E.	E.N.E.	105	0·22	P. and tension variable.
Friday	29·704	59·5	52·4	−7·2	W.	S.S.W.	65	0·15	P. and tension weak at 3 p.m.
Saturday ...	29·499	50·8	56·2	+7·3	S.	S.S.W.	55	0·20	Nothing shown.
Means ...	29·680	58·4	53·4	+5·4			SUM 353	SUM 0·69	

* In this Column, A stands for Active; N. for Negative; and P. for Positive.

TO CORRESPONDENTS.

The business of a new session, and our Student's Number last week; the admirable discourse delivered by Professor Walshe at the opening of University College, and that of Professor Farre at King's College, have thrown us much out of our usual routine; we trust, however, not unwisely nor unprofitably. The lectures of Professor Owen, of Mr. Walton upon the Eye, of Dr. Letheby, and Dr. Budd and Professor Quain, and our edition of Dieffenbach's Operative Surgery, have all necessarily stood over, we fear much to the disappointment of many of our readers. We, however, hope next week to return to our ordinary course, and to continue in it regularly.

"Dr. Dickson."—We have received a letter from Dr. Dickson, and this we had intended to publish as the latest fallacy of the fallacious author of the "Fallacies of the Faculty." We are advised, however, that the language of Dr. Dickson's note is such as to be grossly libellous *upon himself*; and that he might sue us for damages did we give it publicity. For his sake, therefore, we have afforded it the next warmest reception in our power,—the fire. We inform Dr. Dickson, however, that the gentleman to whom he alludes, had as little to do with our article on the "Philosophy of Epidemics," as he himself with the views which he claims as his own.

"Medicus."—We have had our attention directed to the "difficulty" to which our Correspondent refers. The order of the Board of Health is, that "advanced medical students be appointed to give up their whole time to a regular and careful house to house visitation throughout the several districts of the city of London Union, if legally qualified medical men cannot be obtained for the service." We do not see any impropriety in this order; for it would be far better for "advanced medical students" to have the care of Cholera patients, than that they should be left to die without aid. Neither can we suppose that the Apothecaries' Company, under the circumstance, would interpose its authority to prevent the carrying out of such an order. We think, however, that if a careful search were made, enough legally qualified practitioners may be found to meet almost any emergency.

"G. M."—(1) The apodyterium of the ancients, according to some authors, appears to have been the frigidarium of smaller establishments. Others mention the apodyterium and tepidarium as the same room, and those who bathed are said to have left their clothes in this doubly-named apartment. (2) The ancient physicians thought bathing highly conducive to health when employed under certain regulations.

"A Correspondent," who asks the way in which argent. nitras is formed into pencils, is informed, that it is by means of a mould, generally made of brass or gun-metal. This mould consists of two metallic grooved plates, joined together by screws, and the caustic, in a melted state, is poured into a cavity at the top. When the caustic has hardened the mould is unscrewed, the two plates separated, and the cylinder removed from the grooves.

"An Occasional Correspondent."—(1) It is certainly possible to mistake a case of arsenical poisoning for cholera, especially when this disease is epidemical. There are however, certain symptoms by which arsenical poisoning may be distinguished from Asiatic cholera. (2) We would recommend, in all cases where the medical attendant has any suspicion of the administration of a deleterious substance, a *post mortem* examination.

"An Old Indian Medical Officer" writes us, in reference to the discovery of Dr. Brittan, "that the cholera animalcules must not only delight in certain places, but have a particular attachment to certain persons. I have known," says our correspondent, "in India, the cholera, in a cantonment free from disease, to attack ten or a dozen men of the same regiment in one night, while neither in this, nor in the other regiments at the same station, did any subsequent case occur. I can only account for this phenomenon on the supposition, that the newly-discovered animalcules migrate occasionally, and, in their flight, sometimes attack particular individuals, passing down their throats into their stomachs and intestines, and then producing choleraic cramps and rice-water evacuations." Our correspondent further supposes that the animalcule producing cholera is a kind of very minute mosquitoe, as this troublesome little tropical insect always delights in warm, confined, and damp localities.

"Medico-Chirurgus, Liverpool."—1. The order to make a *post-mortem* examination includes a chemical analysis of the contents of the stomach, &c., and no additional fee is recoverable for such analysis. This is very unjust, as expensive processes are sometimes necessary to detect deleterious substances in the body. 2. Medical witnesses called to give evidence at a trial for manslaughter or murder are paid for attending at the trial, in addition to the payment at the inquest, a sum per day, not fixed by law; generally about one guinea a day. 3. A surgeon called by a police-officer to treat an accident on a person in a state of insensibility, has a legal claim upon the patient. If, however, the medical man is called by the police to attend a sick person at the station-house, a fee of 3s. 6d. in the day time, and of 7s., if after nine o'clock at night, is paid by the police authorities.

"A Provincial Surgeon."—1. The meetings of the Royal Medical and Chirurgical Society are held on the second and fourth Tuesday of every month, from the second Tuesday in November till the end of June. 2. The name of every candidate for the fellowship is posted in the library for a certain time. The election is, by ballot, and the fee is £6 6s., exclusive of the annual subscription. The Fellows who reside more than seven miles from London pay no subscription.

"Homo Medicalis."—Yes: the two varieties differ in their geographical distribution. The tænia solium is met with in England, France, Italy, Germany, and other countries in the south of Europe, while the tænia lata is found in the intestines of the inhabitants of Russia and other northern countries of Europe; either worm is rarely met with out of its own district.

"A General Practitioner."—The Examiners at the College of Physicians can, if they please, examine a candidate for their diploma in Latin. We should think, in our correspondent's case, that the questions and answers would be in English.

"Experimentalist."—(1) Under the microscope human blood is not easily distinguishable from that of other animals; for the globules in the mammalia are similar to each other in form and size. (2) The red globules vary even in the same individual.

"Mem."—Pregnancy may occur previous to the occurrence of the catamenia.

"A Subscriber"—A person cannot be prosecuted for practising surgery without a diploma It is necessary, however, to have passed an examination at the College of Surgeons in order for a medical man to become eligible for certain appointments.

"A Lover of Truth."—We cannot publish our Correspondent's statements unless they are authenticated.

"J. B., M.D."—The exact nature of ozone is still not ascertained. The opinions of chemists differ. Berzelius supposes that traces of oxygen are put into an allotropic or isomeric condition, in which its electro-negative character is heightened. Schœnbein considers ozone to be a volatile binoxide of hydrogen. It liberates iodine from iodide of potassium; separates peroxides of manganese from salts of the protoxide; converts yellow prussiate of potash into red; and it is removed or decomposed by contact with most organic matters.

"Adolescens."—The hydro-electric machine owes its extraordinary power to the practical construction of the nozzle of the escape-pipe. By forming its extremity with an imperfect conductor, and interposing in the path of the escaping steam a disc against which it must forcibly rub, the excitation is raised to its most intense form.

"Filius Æsculapii."—It is a disease sui generis, appearing only in tropical climates, and attacking the same individual but once.

"Guyensis."—1. The sound of the fœtal heart resembles the ticking of a watch under a pillow. 2. The best situation for its being heard is between the umbilicus and the anterior spines of the ilium, on either side.

"Mr. Eckford."—The subject is under consideration.

"Erinensis."—The license of the Dublin Apothecaries' Society confers no legal right to practise as an apothecary in England.

"Chiron."—We cannot answer the question.

"G. J. L."—Application should be made to the Secretary of the College.

"Leonard."—The fees vary.

"M.D. Edin."—We have not received the communication.

"A Young Surgeon" should send us his name and address in confidence.

"Dr. Inglis, Halifax."—We will examine the papers.

"Mr. Radcliffe, Leeds," is thanked for his communication. The subject shall be noticed.

"Chirurgus."—1. We have no faith in opium where the patient is collapsed. 2. The joint should be kept at rest till any laceration of its ligaments may have healed; the time depends much on circumstances.

"An Old Retired Physician" has mistaken our intentions. We are not prejudiced in favour of any particular treatment.

"Mr. Laseby, Islington," received.

"B., Reading."—The request shall be attended to.

"R."—It is usual for the new-comer to have the first visit paid him.

"Mr. Daniell, Newport Pagnell."—Communication received.

We must apologize to Dr. Tucker for not introducing this week his letter upon the saline treatment of cholera, and the result of his practice as medical attendant of the Sligo Dispensary. The subject is treated of at some length, and we cannot, this week, find room for it.

Dr. Dingan's communication has been received.

"An Englishman."—We trust our Correspondent's opinion as to the prevalence of Materialism amongst medical students is not correct. Although foreign to our legitimate purpose, and totally unfit for the columns of a *Medical* Journal, we afford space in our columns to Correspondents to the following remarks:—"You who write so warmly in the interests of the Students of the Medical Profession, will not, I trust, refuse to insert this short letter, calling their attention to what must be regarded as, at least, the extreme uncertainty of Materialism, a theory now not unpopular, and to which their course of study unavoidably tends. One hundred pounds reward has been offered for the last two years, by advertisement, through Mr. Churchill, the Medical Publisher of Soho, to any one who makes *the first tenet* of this theory clear; and no one has yet even tried to do so, although the amount of scientific knowledge necessary could be read up in a week or two. Is not this fact, alone, enough to make one suspect that the thing cannot be done; and how is it, I may ask, amidst the tenets I see promulgated, that men of young and energetic mind do not seek the grounds of what they believe?"

"Dr. Richardson's" Letter is in type.

Reports of the London Medical Society will appear in our next.

[Advertisement.]

His Royal Highness Prince Albert has been pleased to appoint Edwin Saunders, Esq., of George-street, Hanover-square, to be Surgeon-Dentist in Ordinary, in the room of Mr. Nasmith, deceased.

London Gazette, October 2nd.

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MR. PRINCIPAL AND GENTLEMEN,—Among the various duties which have heretofore devolved upon the Dean of the medical department, not the least agreeable has been that of receiving you here, on occasions like the present, with that cordiality of feeling which it has ever been the desire of the professors to promote between themselves and their pupils.

This welcome task has of late years been undertaken by the Dean of the year; but it having been determined that the office of Dean of the medical department shall become a permanent, instead of an annual one, we have now returned to our former practice of affording to each professor in rotation the privilege of assembling you here, and of addressing you on matters relating to your common interests.

The occasion is one which gives opportunity for choice from so wide a range of subjects, that it is difficult to decide in what manner and of what materials an hour's discourse may be best composed.

But, in considering how I could best fulfil the duties with which I am this day charged, I have come to the conclusion that no better subject could be chosen than one that should have reference to the improvement of our Profession. And as what Lord Bacon has observed of medicine in his time, may be safely averred of it now, "that it can never be improved until its imperfections are pointed out," I propose as a subject, "The consideration of some of those circumstances which, especially in our times, have contributed most to retard the progress of medicine."

Men are much divided in opinion as to the rank which medicine ought to hold among the various departments of knowledge. Some consider it entitled to rank as a science; others view it only as a conjectural art; while most, seeing how closely it borders upon the neighbouring sciences, and how much it draws from their principles and discoveries, agree to accord to it the title of an imperfect science, and, speaking of it in conjunction with the art, designate it the Science and Practice of Medicine. In these terms are included *all* the branches of the healing art; and in this sense I wish to be understood as employing them throughout this discourse.

Now, let us for a moment examine the claims which medicine has to any or all of these titles. And for this purpose, without at all intending to waste your time or attention by entering upon matters of early history, which the curious may prosecute for themselves, allow me for a little while to direct your mental vision back into the gloom of some twenty-five or thirty centuries, and let us see how medicine then stood.

In the Asclepiæ, or Temples of Health, presided over by the order of Priest Physicians, medicine, in its origin and early progress, could be no other than a simple art—deriving no aid whatever from science—existing, in fact, before science dawned, or authentic history began.

What r[illegible] measures were adopted in these temples we have but limited means of accurately ascertaining. We know, however, that certain exercises and ablutions were practised; that attention was, to a certain extent, paid to dietetics, and that not only were the effects of medicines carefully noted down, but the symptoms and issue of every case accurately recorded by the Asclepiadæ, who became, by these means, great adepts in the art of prognosis.

Such were the Temples of Health; and from one of the most important of these sprang the Coan Sage, to whom the combined suffrages of all succeeding generations have agreed in according the title of "Father of Medicine." And well does that title appear to have been deserved, when we consider what Hippocrates did for medicine. Witness his works on Epidemics and Prognostics—the former abounding in most accurately recorded cases; his admirable remarks on diet and its relation to medicine, and his observations on air, water, and localities, in reference to health.

Now, it has often puzzled learned men to explain how, from the darkness which appears to have preceded the birth of Hippocrates, so much light should have been suddenly shed on the path of medicine by one man's efforts alone. But this wonder applies in no greater degree to Hippocrates than to any other mighty genius whose appearance constitutes an era in history, and serves to shed lustre upon succeeding generations.

It must be remembered, too, that Hippocrates was instructed in polite literature and philosophy of the age by men of classical celebrity. He enjoyed free access to all the treasures of observation collected in the Temples of Health during many generations, and the period of his existence was one of the most memorable epochs in the intellectual development of the human race. He had for his contemporaries, Pericles, the famous statesman; the poets Eschylus, Sophocles, Euripides, Aristophanes, and Pindar; the philosopher Socrates, with his distinguished disciples Plato and Xenophon; the venerable father of history, Herodotus, and his young rival, Thucydides; the unrivalled statuary, Phidias, with his illustrious pupils; and many other distinguished names, which have conferred immortal honour on the age in which they lived, and exalted the dignity of human nature (a.)

Hippocrates is, indeed, accused by Celsus, of having separated medicine from philosophy. But in so doing, when we consider what the philosophy of those days was, we see that he could not have rendered medicine a greater service. For "philosophy, whilst it had freed medicine from the delusions of superstition, had substituted the errors of hypothesis in their place. And the important office, which the father of medicine conferred upon the art was, that setting aside *à priori* arguments, and looking only to facts, he discarded both superstition and hypothesis, and substituted the results of actual observation in the room of both. Thus, at least, he attempted to place medicine upon a philosophic basis.

I need not carry you through the intermediate periods of history to show you in what way medicine has either advanced or fallen back in proportion as it has adhered to, or receded from, the ground upon which Hippocrates endeavoured to place it. How it has now degenerated into an art, now struggled to emerge into a science. To the latter title, I have said, it now often claims to be exalted. But it can approach this desirable point only in proportion as its observations and reasonings are conducted in the true spirit of philosophic inquiry. All its observations must be observations of facts; its conclusions must be fair and legitimate inductions. But, what is a fact in medicine? and what is an observation? To the different interpretations which men have put upon these questions, may be traced, in a great measure, the impediments which medicine has hitherto, and especially in our own times, suffered. *Now these impediments, we shall find, are attributable partly to the nature of the subject, partly to the erroneous modes in which men too often set about acquiring a knowledge of medicine, and partly to the mode in which the public view and receive it.*

And first, let us inquire, what is there in the nature of medicine which prevents it from being placed upon an equality with the strict sciences—notwithstanding that it is of far higher antiquity than many, if not all of them, and that so many men of the highest eminence, and distinguished for their intellectual endowments, have given up their lives to its cultivation? The reply to this question, in the first place, is, that the subjects with which medicine is conversant do not admit of the same mode of treatment, nor do they afford the same opportunities and facilities for observation and experiment that are offered by the other departments of natural knowledge.

Whoever seeks to apply *too strictly* the method of philosophic induction to the study of medicine, will find himself often greatly disappointed in the result. Nor can it fail to be otherwise. For let us consider the difference in the materials for observation, and the mode in which they are presented to our notice, in medical, as compared with other investigations.

In medicine we cannot select our opportunities for observation, but must take them as they arise. So that, do we desire to note a particular fact, we may wait a dozen years, nay, a whole lifetime, before the desired object presents itself to our expectant view.

Again, when we would begin our experiments or observations, we find that we cannot witness the entire process, but only portions of it—so that much is necessarily left to conjecture. In this respect physic requires a very liberal, active, and penetrating genius, because the observer, being often obliged to confine himself to simple probabilities, will be unable, without an extreme share of penetration, to trace them to their highest degree.

Further, we cannot deal with *animate* in the same way that we do with *inanimate* matter—for neither is it subject to the same laws, nor is it amenable to the same modes of treatment; nor can we take it under our own control, since it is governed by certain vital processes, of which, it must be confessed, we are mainly ignorant, and is further under the influence of mind, which refuses to yield itself to man's government.

Such, then, from the nature of the subject, are some of the circumstances that must, for the present at least, prevent the pursuit of medicine as a science, from being conducted upon the same rigid principles of philosophic inquiry, which we elsewhere apply with so much success. Yet it is from this very uncertainty that those who practise medicine successfully, claim their greatest honour. "For where there is no possibility of error, no praise is due to the judgment of what is right."

But this does not constitute the greatest impediment to the advancement of medicine as a science. I need not, therefore, longer dwell upon this point, but proceed to consider the next source of impediment, as consisting in the faulty mode in which men too often set about the acquisition of medical know-

(a) Works of Hippocrates, by F. Adams, LL.D. Vol. I. Sydenham Society.

ledge. And now permit me to vary in some degree the tenor of my argument, for as I have in view the offering of useful advice, rather than the binding myself too strictly in the trammels of a logical discourse, I shall, while I touch occasionally the errors to which I have alluded, occupy your time also with the consideration of the means by which these errors may be best avoided.

I begin, then, with what mainly concerns you now—with your present studies and immediate employments. And first, let me remind you of the warning aphorism of Hippocrates:—"Life is short—Art long," is the exordium of the father of physic.

But if an entire lifetime is so short, compared with the period requisite to mature and perfect any art, as to justify the remark in reference to medicine, that "it must be regarded rather as the child of Time than as the offspring of Genius," how important is it for you who are able to give, it may be only three or four years to the cultivation of that knowledge which it has required so many centuries to amass, to spend that short period to the greatest advantage. To arrange for yourselves at the very outset such well-considered methods of study as will enable you to take full advantage of the very large opportunities here afforded to you.

It is true that a certain course of study is marked out for every one, varying according to the period of time which is to be devoted to this purpose, and the nature of the qualifications which it is in view to obtain. To a certain extent, also, attention to the subjects after a given order, is made in a measure compulsory upon all—and so far little is left to your own choosing. But remember that this is but fixing the outline or boundaries of the work which, during the status pupillaris, you are called upon to perform. The manner of the performance, so that it does but exhibit a sufficient degree of attention, and desire for learning, is all your own.

Do not, however, missapprehend me. Let no one suppose that it is a matter of indifference to the professors of the several departments whether their pupils acquire little or much knowledge. On the contrary, you will find that by every available means, whether of example, of advice, or of friendly warning, your teachers will endeavour to urge you on to the full and profitable employment of that time, which, if now misspent, can never afterwards be regained.

But here let me give you one caution regarding lectures. The student who relies upon lectures alone will find himself but very imperfectly instructed in his profession. For their true use and aim is not so much to teach, as it is to point out to him what he ought to learn. To lead and guide, but not to constitute his studies. To draw him on by well-considered steps from one subject to another, smoothing the difficulties, simplifying and preparing the way for those more difficult modes of study, with which he is afterwards to be engaged,—but not supplanting them.

But to make your courses of study fully serviceable to you, there must be also discipline; and without discipline, we do not profess to offer you instruction. Now, it is of the first importance that you should have a right comprehension of your duties in this particular, both with regard to your teachers and also to yourselves.

Discipline, to a sensible man, never means control. He sees in it only that order and regularity which are established for the general good, and in which each member of the community is proud to take a part. I need not dwell upon the details of such matters, because the more immediate superintendence of them will devolve upon the permanent Dean, Dr. Guy, whom you must regard as, what I am sure, indeed, you will find him, your counsellor, adviser, and kind friend. Every one, then, who enrols himself as a student of this College, gives thereby an implied compact that he will abide by its customs and regulations.

And we deem it no unreasonable expectation that he should make *these* matters of prime consideration,—that he should lend himself heartily to the work of duly fulfilling the course and order of the studies upon which he has entered,—and that in all this he should exhibit the conduct and bearing of a Christian and a gentleman. Nay, more, are we not justified in expecting that no inconsiderable number will leave a lasting memorial of their residence here, by adding themselves to the number of those distinguished students whose names we are proud to recount as shedding lustre upon this, the home and seat of their instruction.

If, gentlemen, this praise rested upon no othe[r] evidence than that which the records of the Colleg[e] alone afford, we might be accused of partiality fo[r] those whose education it had been our occupatio[n] and pleasure to direct.

But there are some who have also distinguishe[d] themselves before other tribunals,—and to those w[e] feel that we have a duty to perform, and no unwel[come] one it is! The duty of publicly expressing ou[r] gratification at seeing our Alumni heading the lis[t] in the struggle for University honours and dis[tinctions].

No inconsiderable cause for gratification is it to find that, in the last examination for medical honour[s] in the University of London, the whole of the firs[t] gold medals, four in number, and both the exhi[bitions], were obtained by two King's College men.

Gentlemen, we do not hesitate to hold up to yo[u] Charles Pardey and George May, as men whos[e] success may well stimulate your exertions; and i[f] your desire is also to maintain the character o[f] King's College, we can offer you no better advice than that you should "go and do likewise."

Now, as I have ventured to recommend discipline in regard to conduct, let me also advise you i[n] reference to the equally important subject of discipline in regard to mind,—that training of the intellect which every one of you who expects to excel in his profession must impose upon himself. "If ever it is of advantage to think rightly, it is so at your age, when the mind is fresh and ductile. Postpone this discipline, and time will bring with it changes from which you will not be exempted. It will bring with it rooted prejudices, and modes of seeing things after your own ways; your position in life, and your associations, will give a colouring to events; and you will find that you have not escaped the thraldom of habits, but have only acquired inefficient ones; that your mind has been moulded by circumstances, instead of by principles; that your views of science and scientific advancement are oblique; that your laborious industry is unproductive, because immethodically or falsely exercised—and that your years have slipped away without enriching the intellectual stores which were entrusted to you;" (a) you have been

"Lowering buckets into empty wells,
And growing old in drawing nothing up."

But I must revert to more practical studies. Those in which, ceasing to be listeners or mere spectators, you enter upon a more practical part of your career, and become yourselves in a measure the actors in the scene of your studies. And, first, let me speak of *Anatomy*,—the neglect of which has, in my opinion, contributed more than anything else to retard the progress of medicine. I do not speak here of present neglect, for anatomy never was so extensively or so highly cultivated as it now is; but I refer to past times, even up to a comparatively recent period, when dissection was very little regarded, and when morbid anatomy was only beginning to be cultivated, and microscopic anatomy was unheard of and unknown.

Contrasting those times with the present, we cannot help regarding microscopic investigation as constituting the most interesting feature of the day. But how slow was the Profession in general to admit this as a legitimate means of investigation; nay, so general at first was the dislike, or rather, I may say, jealousy of this method of observation, that a medical man who was provided with a good microscope really felt that he had a somewhat dangerous possession, and was compelled to be cautious how he employed it, lest it should be thought that he was departing from the duties which he owed to his Profession.

The opposition, however, which the microscope had to encounter was no greater than other useful inventions have been fated to struggle against, before they have passed into general employment. It rested upon no stronger basis than the occasional deficiencies of bad instruments, and the errors of incompetent observers. Time soon corrected both of these, and the thirst for knowledge excited by the exquisite appearances revealed by the microscope, was fostered and kept alive by the rapid improvements in the instrument—the observer and the artist mutually entering into an honest rivalry, and endeavouring to outstrip each other; the one, in finding objects of such surpassingly delicate organization as to baffle the efforts of the optician to define; the other, in bringing his glasses to such unrivalled perfection, as to open the field anew to the keenest and most practised observer.

Now this was no vain and profitless contest. It could not fail to have its beneficial effects; for whilst every new discovery in minute anatomy added to our stock of knowledge, in a field hitherto uncultivated for any useful purpose, the voice of opposition became so rapidly silenced, that in the course of a few years it has literally died away. The turning point of this desirable change may in no inconsiderable measure, I think, be traced to the formation of the Microscopical Society—a society which, founded by one of our own profession, was no sooner established than it was joined by between 100 and 200 members, many of whom belonged to medicine.

Gentlemen, I have a very strong feeling with regard to the value of microscopic investigation. I believe that it will prove to be even in our day the most powerful auxiliary that has ever yet been afforded to medical research—that it will do as much, or even more, for medicine, than the telescope has done for astronomy. Indeed, the cases are nearly parallel. In both, there is a region which lies beyond the power of unaided vision. The one apparently as infinite in space, as the other is in minuteness. Into these regions it has pleased the Almighty Author of nature to permit us to penetrate, and there to regale our delighted vision with new proofs of his omnipotence. Nor can we view this permission as having been given for any other than the highest purposes—to stimulate man's curious, searching spirit—to give a keener edge to his inquiring inclinations—to shower on every step by which his ingenuity advances, the reward of a thousand beneficial discoveries—to crown his efforts by extending his usefulness to man—to lead his soul to the contemplation of his God.

If any or all of these be motives, let nothing deter you from the inquiry after truth. If the wit of

(a) In[illegible] Lecture by Robert Ferguson, M.D. [illegible]

man has gained for his limited faculties a new accession of power, be sure that nothing but prejudice can oppose its employment. Use, then, these new powers "for the benefit of man," apply them to the purposes of your profession; endeavour to search out and unravel by this new aid the intricacies of our organism; examine it in health and in disease probe the sources of its maladies, and seek to discern the elements that tend to its destruction. In this way only can you hope to advance our knowledge of morbid processes and morbid changes; and, as far as anatomy and physiology are concerned, to place your profession upon a surer and wider foundation

But, gentlemen, whilst a new impulse has thus been given to anatomical investigation, by the discovery and application of more efficient means of research, and whilst a new responsibility rests upon us for their due employment, we must not make our brethren in the ages immediately preceding ours altogether chargeable with the consequences that have resulted to our profession from the imperfection of anatomy; because a very little reflection and inquiry will show, that even up to our own times anatomy has greatly suffered from causes extraneous to the profession, some of which must indeed always operate more or less forcibly to the prejudice of anatomical investigation, inasmuch as they are inseparable from the influence of the finer attributes of our nature.

I cannot altogether quit this subject without alluding to a circumstance just now of peculiar interest. Our land is being swept by a pestilence which has already carried away many thousands of victims, not sparing our own ranks. How has science exhausted its highest efforts in endeavouring to determine the source and nature of this plague! How has ingenuity been constantly occupied, yet failing at all points in discovering a remedy! Now, however, we seem to be arriving at some views which may be found to throw a complete light upon the first, at least, of these requirements. I need not, perhaps, more specifically allude to this very recent discovery, as many of you may be aware of its nature, than by saying, that with the aid of the microscope, certain corpuscles have been observed in the excretions and bodies of those who have died of cholera, and also in the air and water of cholera-infected districts. These, as far as investigations have yet proceeded, appear to be peculiar to the localities and subjects of the epidemic. Now, to say more than this at present would be to overpass those strict boundaries which the laws of scientific investigation impose upon observers. We must yet wait for further confirmation of these most interesting observations, before we receive them as acknowledged and undoubted truths. Tested, however, as they have been, by most competent observers, they come to us with a force which compels our earnest attention; and, should these observations tend to an explanation of the real nature of the disease, as I think they may, the discovery will be one of the most interesting and important events that has ever occurred in the history of medicine.

The records of epidemics constitute, perhaps, the most valuable portion of our annals; but where shall we find any account that has hitherto explained, in a satisfactory way, the exact cause of these fearful visitations? The ancients ascribed them to the anger of their gods; but sought for no explanation of a physical nature. In our day, whilst we acknowledge and bow before the hand that directs the scourge, still, stimulated by the desire of doing good, and of employing, to the highest extent, those faculties with which we have been blessed, we hesitate not in our endeavour to penetrate the dark secrets of nature, and there to seek an explanation of the malady which has afflicted us.

But, let us not hastily conclude, that, should these prognostics prove true, we have now, for the first time, received a physical explanation of phenomena, in which we still acknowledge a yet higher source. Should any one doubt the propriety, or even probability of such an explanation as that which is now offered, let me invite his attention, or rather his recollection, to those fearful demonstrations of Divine vengeance which the *most* ancient of histories records; and there trace, in those handfuls of ashes, which, sprinkled towards heaven, in the very sight of the offending monarch, became a fine dust, penetrating to *some* portions of the land, yet sparing *others*, the intelligible instruments by which an epidemic may be swayed.

And now let me follow you to the hospital, and see how you will acquit yourselves in this new field of observation. What a vast source of knowledge is now opened up to you! All that you have yet learned is but ancillary to what you are now beginning to investigate. I speak, therefore, no longer of previous studies, of lectures, or demonstrations, or dissections; the first object of these is accomplished when you have acquired sufficient knowledge to guide you to the investigation of disease.

And to this investigation you will, indeed, find all your previous acquisitions necessary; Anatomy Physiology, Pathology, Chemistry, Materia Medica, Botany. But why attempt the enumeration? These, and all that you have learned in lectures, of the principles and practice of the healing art must now be applied to the business of studying disease, not as heretofore, in the abstract, but now with tangible and living examples of what you have before been only mentally contemplating.

And which of these examples will you select for the commencement of your studies? What class of cases shall first occupy your attention? These are matters which you may decide for yourselves. Do you make Surgery your chief object? You will then probably commence in the wards devoted thereto. Or does medicine claim your first attention? There will be no lack of cases to supply your wants.

But these are not the points upon which I would address you. I regard medicine, whether clinical, surgical, obstetrical, or forensic, as one science, to be studied only in one mode; and it is upon the right mode of studying, rather than upon the particulars, or details, or order of study, that I shall here prefer to speak.

And, in the first place, I must beg you to observe, that the mode of teaching medicine, so far as this can be done by lectures, is by laying down general doctrines and principles relating to entire classes of diseases and remedies, whilst particular facts are mentioned only as far as they serve to illustrate those principles, or as they are clearly deducible from them.

But, in commencing to study for yourselves, you must now observe the opposite and more natural mode of proceeding from particular facts, to establish or to confirm general principles. Now, I shall presently endeavour to show you in what way the mind should be disciplined, in order that it may lay up for itself a store of useful knowledge; how it should endeavour to drink in truth untainted by error; how, also, in the anxiety to avoid error, it should not fall into the opposite extreme of rejecting the truth.

It is true, that in the beginning you will have the aid of your teachers; that in every case which comes under your notice, you will do little else than play the part of observers; and that you will gradually be inducted into the arts of observing, of distinguishing, and prescribing.

You will reap also the greatest advantage from those bed-side observations and clinical instructions with which your visits at the hospital will be interspersed.

And if many hours daily spent in the anxious desire to make the means of clinical instruction there existing fully available to you, when but a portion of that time would suffice to do full justice to the patients—if care and anxiety to develope to the fullest extent the resources of the hospital, and to lose no opportunity of showing to you interesting cases and instructive operations,—if these and other efforts to promote your instruction, which you will experience in the course of your pupilage, at the hands of the Physicians and Surgeons of the hospital, can serve to excite you to industry and train you in good habits, then I am satisfied that you will experience them to the fullest extent.

But time will bring new opportunities and new employments; and thus in various ways, as clinical clerks, or as dressers, or in some other capacity, you will gradually exchange your former business for more active duties, and learn to feel that now, at least, some responsibility devolves upon you. And that you may neither waste nor misapply these opportunities, I shall here advert as briefly as possible to the circumstances which I think most likely to lead to that untoward result, reminding you at the same time, that, as my object is to warn you against errors rather than to recommend any special scheme of study, you must not here expect me to refer to matters which would be foreign to that intention.

If I were to ask any of you what is your object in attending the hospitals, you would probably answer, to gain experience. But if further I were to follow you to the bed-side, and observe the mode in which each of you set about the matter, I doubt not I should find you proceeding in different ways, and some, at least, in such a manner that the looked-for experience could never be attained.

"Let us," says Locke, "suppose the mind to be as white paper, void of all characters, without any ideas,—how comes it to be furnished? Whence comes it by that vast store which the busy and boundless fancy of man has painted on it, with an almost endless variety? Whence has it all the materials of reason and knowledge? To this I answer in one word—from *experience;* in that all our knowledge is founded; and from that it ultimately derives itself. Our observation employed either about external, sensible objects, or about the internal operations of our minds, perceived and reflected on by ourselves, is that which supplies our understanding with all the materials of thinking. These two are the fountains of knowledge, from whence all the ideas we have, or can naturally have, do spring."

Such, then, is experience; but practically experience is too apt to be regarded as the simple produce of the senses, whilst the understanding seems to come in for a much smaller share in the operation. Yet, unless both the powers which contribute to produce experience, are equally employed—that is, unless observation and reflection are made mutually to assist each other, the experience which results can be of no real value, or rather, it may be said to be no experience at all. False experience, then, is that which results from the use of observation without adequate reflection, or of reflection with insufficient observation, and both these kinds must be equally avoided.

Now, in endeavouring to acquire this experience

for yourselves, I hardly know which of these two errors you are the more likely to fall into; but whichever bias (if either) your mind should unfortunately take, you may be almost certain it will retain, and thus tinge with a false colouring all your subsequent acquirements. One or two illustrations of the consequences of this bias must here suffice.

A man who uses his observation only, and never reflects on what he sees, cannot be said to have experience, but only to acquire habits. He may, indeed, amass a certain quantity of information. He may make a large collection of cases, for example, and take great pains in recording all the symptoms which he observes; and these laborious and pains-taking compilers are sometimes useful to others who may have genius to turn their labours to good account; but to themselves these labours are almost entirely useless. Because, having no ideas of method or arrangement, or plans of any sort, or views of general principles, they can discern neither the resemblances nor the differences of things. For although facts afford the only solid foundation for true science, yet when disconnected they convey but little instruction.

Thus a man who observes, but does not reflect, contributes little or nothing of value to his profession. All that can be said of such an one is, that he does not advance the science of medicine. But the man who falls into the opposite extreme of reflecting without adequate observation, positively retards our progress, and that in many ways.

A sage being asked how he had derived his knowledge, replied, "From the blind, who never place their feet till they have tried the firmness of the soil: I observed before I reasoned, and I reasoned before I wrote." It would have been well for physic if this rule had always been observed; our time would not then have been spent, as much of it is now, in correcting the errors of our predecessors, and in endeavouring to unlearn what a previous age has advanced. Now these errors may, in the first place, be traced to the unwillingness which we in general feel to submit to the slow, but at the same time, sure method of proceeding in cases of philosophic inquiry by cautious induction. So slowly do our facts come in medicine, that we become impatient of the restraint, and endeavour, by a shorter road, to arrive at a knowledge of general principles, and to deduce general laws from insufficient or imperfect data.

Let me take one illustration. A clever physician, now deceased, announced to the Profession his discovery of the fact, that spasmodic croup depended upon pressure of the recurrent laryngeal nerve; and in proof of this assertion, he exhibited some specimens of morbid parts, in each of which the nerve was distinctly seen, imbedded in hardened masses of glands.

Now the facts were so evident, the explanation was so simple, and the inference seemed to follow so easily and naturally from the premises, and offered just that sort of explanation of the phenomena of the disease, which fell in most completely with what we know of the anatomy of the parts, and of the symptoms of the disease, that a large portion of the Profession hailed the announcement as an interesting and important discovery.

But it was subsequently found, that not only was the combination of enlarged glands with spasmodic croup not a constant, but that it was not even a common occurrence—at least, that a great many cases occur without this combination. Thus, without waiting for a larger number of examples which would either have confirmed or refuted the doctrine advanced, an attempt was made to establish a fact as general, which not only was not true of all the individual cases, but which did not belong to any, having no real connexion with the disease which it was made to explain.

So, also, the experience which we trust to from the testimony of others, is liable to the same imperfections with our own; and we are too apt to admit supposed facts in medicine, without a sufficient examination of the authority on which they are based. Men often mistake impressions for facts, and record that as the result of their observation, which is no other than the offspring of the imagination. Thus every part of natural history, and medicine above all others, is overwhelmed with facts which have no actual existence.

There is still another error of the same kind, but differing in some respects from the two that I have mentioned. This is the partial statement, or partial reception, of facts collected with a view to support particular doctrines. In no way do we see this mistake so constantly occurring, as in the attempt to make certain classes of disease appear to depend upon one particular condition, or to assign to certain classes of remedies, or even to individual medicines, an efficacy which does not really belong to them.

"There is a certain intoxication that usually attends the supposed discovery of general principles or useful inventions, which renders men of warm and lively imaginations altogether blind to every difficulty that lies in their way, and often makes them artfully suppress them. The suppression of facts that appear to contradict a favourite hypothesis, is not, however, always owing to want of candour in the author. Sometimes he does not see them, sometimes he despises them, and sometimes he conceals them from the fear of giving people an unreasonable prejudice against what he deems an important discovery."

Now, we cannot help regretting the self-deceit which thus prevents the mind from becoming the recipient of the entire truth; for not only has this failing a most injurious influence on the progress of medicine, but when concerned in the employment of remedies, it tends to diminish that confidence which a more cautious and candid mode of investigation could not fail to inspire. Every day, unfortunately, furnishes fresh examples of this wide-spread error. The first that we are ready to discover in others,—the last that we are willing to admit in ourselves.

"Oh wad some power the giftie gie us
To see oursels as ithers see us;
It wad frae mony a blunder free us."

But which of us may not with advantage apply this wish to his own case?

Let these examples suffice to point out the kind of errors into which you are likely to fall in your first handling or dealing with facts.

Your next endeavour must be, after having acquired an extensive collection of well authenticated facts, to arrange and classify these, according to their apparent relations, and to endeavour to deduce from them general facts, or general principles.

It is in this way, and with this view, that Nosologies are formed, which are the more valuable in proportion as they proceed upon the recognition of true analogies; but the less so as they depart from a natural and assume an artificial basis. Now, without some kind of general and systematic arrangement of our facts, it is obvious that we cannot make full use of the knowledge that we acquire, but it may be doubted whether, in medicine, nosologies can ever be of the same use that systematic arrangements are in other departments of physical science generally. Some, indeed, discard them altogether, as unprofitable or even hurtful.

Now, it is important that you should understand in what the value of these arrangements mainly consists, and in what respects they may be viewed as injurious to the progress of medicine. They may be said to do for you in books what lectures do for you during the early part of your pupillage. They serve to direct your mind to the objects of which you are in search, and to lead you to trace out among them, certain general principles and analogies; and in so far as they answer this purpose, and this only, they may be regarded as beneficial. But in so far as they may tempt you to overlook details, and to merge all facts in general principles, so that you get these by heart, and neglect the others, than they are positively hurtful.

But, without wishing to detract from the good that they may do, I must also point out another objection to which nosologies are not unfrequently open. One who sets about compiling a nosology amasses such a quantity of learning, that the mere frame-work necessary to contain it, becomes so cumbrous and overloaded, that it too often tends to hide the stores which it was constructed to reveal. Knowledge, in fact, is not only stored up, but is absolutely put away.

On the other hand, those who, in order to avoid this error, aim at simplicity of arrangement, are apt to pass into the opposite extreme, and to mar the value of the facts which they record, by bending them to the system; and, in this effort to reduce many diseases to a common standard, deprive them of their value as isolated facts. Diseases, in short, are here treated like the guests of that ancient Attic robber, on whose couch all travellers were alike compelled to repose. Fortunate was it for those whom the couch fitted; but woe to all whose stature failed to accord. The short were stretched, and the tall were shorn of redundant limbs, in order to procure uniformity in the result.

We are not, however, just now in danger of running on into either of these extremes; for the business of compilation seems, for a time at least, to be suspended; and our present occupations consist chiefly in the study of what are called "*specialities*." That is to say, the various departments of which the Profession has usually been deemed to consist, seem to be gradually subdividing themselves into smaller sections, each of which is investigating some special form of disease, or studying the pathology and treatment of some particular organ. This disposition to devote attention to particular studies appears to have imperceptibly crept over the Profession in our day. And so it is, that there are few of us who, when the name of a particular physician or surgeon is mentioned, do not almost involuntarily connect with it the notion of some disease or organ with which it has come to be associated.

Now, pathologists say, that this is just what is wanting to advance the progress of medicine—that the labour of observing should be a divided labour —and that, until we can thus work out the details which relate to the pathology and treatment of every organ and part of the body, we can make no real progress. Now, I think, we may well pause before we admit the correctness of this doctrine; indeed, I very much doubt whether the practice, now become so universal, will not rather in some respects retard us.

For we cannot separate the parts of the body as we do the objects of natural history, and regard them, either in their pathology or treatment, in an isolated form. "The eye cannot say unto the hand, I have no need of thee," any more than the brain or heart, for example, can be viewed as independent of the stomach.

This mapping out, therefore, of organs and parts of the body, and assigning their care to different hands, has practically this unfavourable result—that

it leads to the too exclusive consideration of the diseases of these particular structures, as things apart from the rest of the body, and not as essential portions of a whole. In some ways it is difficult to avoid this, because, as soon as the public learn that a physician or surgeon has made any special observations, or has published any particular views, they naturally wish to consult him with regard to diseases in which they may be personally interested. And as it very often happens that in these cases the public reverse the acknowledged rule, and regard "the prophet as without honour save in his own country," so a man's practice becomes, in time, chiefly limited to cases of a particular kind.

Let me give you an illustration of what I mean, by relating the following occurrence, which I believe is by no means a rare one:—A woman brought to me at the Hospital a strumous child, whom I immediately perceived to be suffering from ophthalmia. I was about to direct my attention to the eyes, when I was stopped by the mother, who informed me that it was not for that purpose she had consulted me, as "his eyes were under Mr. A—." Turning, therefore, my attention from the forbidden ground, I was about to examine the child's limbs, when I was again interrupted by the vigilant mother: "His limbs, Sir, are under Mr. P—." "Why, then," I inquired, "have you brought him to me?" "For his stomach, Sir, his stomach."

Now, we cannot help thus reflecting upon the results of a system which leads to the different organs being separated and carried about to different professors of our art; here an eye, there a limb, and there again an intestine, till we begin to think that it must have been something of this kind which Adrian meant when he caused it to be inscribed upon his tomb, that "it was the great number of physicians that killed the Emperor."

Now, I am far from wishing to undervalue, in the slightest degree, the labours of those who may have thus gained the highest reputation, or to suggest that that reputation is not most amply deserved; but I beg you to observe, that I am speaking not with reference to individuals, but with reference to the effect which the system or practice must ultimately have on the science of medicine. And this effect, in so far as it may lead to views of disease and views of practice, apart from the general consideration of morbid and countervailing actions, must, I think, in that degree be injurious.

Now, gentlemen, there are yet many other points regarding modes and objects of study, to which, had it been possible, I should have wished to direct your attention. There is, however, one consideration, relating not so much to the mode, as to the end or purpose of those studies, which, before I pass to a very brief notice of the remaining point that I have in view, I must not omit to offer you.

You are, doubtless, satisfied, that, in selecting Medicine, you have chosen an honourable and noble profession. The best and wisest men have ever so regarded it. But remember that with each of you rests the responsibility of upholding it in that light, in the eyes of those with whom you may be brought into contact. Men will properly interpret the view which you may entertain of it, through the medium of your own conduct; and that again will be regulated very much by the habits of thought and action which may have pervaded your early periods of life. Let me, then, while the mind is still plastic, and your habits are as yet mainly unformed, invite your consideration of those more exalted purposes at which medicine, whilst pursued and practised as a means of honourable subsistence, should still ever aim. These, together with the impediments which beset the path to knowledge, and are apt to lead the mind away from the ultimate purposes of its attainment, have been so ably pointed out by Bacon, that I cannot do better than present them to you in his own vigorous and striking language.

"But the greatest error of all the rest, is the mistaking or misplacing of the last, or furthest end, of knowledge; for men have entered into a desire of learning and knowledge; sometimes upon a natural curiosity and inquisitive appetite; sometimes to entertain their minds with variety and delight; sometimes for ornament and reputation; and sometimes to enable them to victory of wit and contradiction; and most times for lucre and profession; and seldom sincerely to give a true account of their gift of reason to the benefit and use of men; as if there were sought in knowledge a couch, whereupon to rest a searching and restless spirit; or a terrace for a wandering and variable mind to walk up and down with a fair prospect; or a tower of state, for a proud mind to raise itself upon; or a fort or commanding ground for strife and contention; or a shop for profit and sale; and not a rich storehouse *for the glory of the Creator, and the relief of man's estate.*"

The third and last impediment, which I must very briefly notice, originates in the mode in which the non-professional public view and receive medicine. Their ideas of the nature of disease, and of the action of remedies, are widely different from ours,—with which, indeed, they seem to have little or nothing in common. They imbody their notion of diseases in the form of entities, to which they give a "local habitation and a name." * And these they appear to refer to when, in describing their symptoms and sensations, they say, "*It* took me here, I feel *it* there." And their idea of remedy is that of a power, or substance, which is to have the effect of driving out these entities, and of leaving the body whole as it was before. But of morbid processes and countervailing actions they have not, in general, the smallest conception.

Further, they believe that each disease (so understood) has its own proper remedy, and he is the cleverest fellow in their estimation who has the surest specific for each disease, or by one *coup-de-main* can sweep away the whole.

Now, this I think may be said to be the foundation of the public mind in regard to its views of medicine, however they may vary in particular cases and individuals. And it is against such a notion in general that we have to contend.

Now, if persons who have not been educated to medicine would be satisfied with not thinking upon these matters, but would entrust themselves, as a certain portion only of the public do, with the same implicit confidence to the guidance of their medical advisers, that men do with another profession in regard to the management of their affairs, we should find one of the greatest impediments to the progress of medicine at once removed. But a large portion of the public desire to take an active part in the treatment of their own maladies, or at least to select for themselves the mode in which they will choose them to be treated. I need not observe how widely this opens the door to those numerous bye-ways which tend to corrupt the pure spring of medicine, and to those still more open quackeries that now everywhere abound. The love of the marvellous, the easy credulity given to bold assertions, and the "illusive flattery of hope," have ever, as they will doubtless continue to do, given encouragement to a thousand inventions.

It would be impossible to determine the extent to which the public encourage empiricism. We have the means of determining the exact amount of this only in one department—I mean that department in which the public decide, first on the name of their disease, and then treat it themselves with a medicine of which they do not know the composition.

The amount of taxes paid annually to the Government for patent medicines, exceeds 34,000*l.*, and as the tax bears usually a proportion of one-ninth of the value, and is invariably added, and therefore paid by the consumer, the sum thus represented would exceed 300,000*l.*, as paid yearly by the public for this class of medicine only, a sum far exceeding the united income of all the Hospitals and Medical Charities in this vast metropolis.

The time warns me, gentlemen, that I must close this very imperfect attempt to bring under your notice some of those more significant errors which, in our present day, and in the times more immediately preceding us, appear to have contributed most to obstruct the path of medicine.

The task of pointing out errors is always an unwelcome one, and he who attempts it, however he may feel impelled by a sense of the obligations of duty, sometimes lays himself open to a charge of motives which may be far from his intent.

I trust that nothing which I have said will, for one moment, convey to you the belief that I entertain aught but a feeling of the highest admiration and regard for the Profession which is our mutual choice, and for the members of which it is composed. But the praises of Medicine, or of its cultivators, was not my theme. Long may it be your high privilege to adorn the one, and to discern the excellencies and merit the esteem of the other.

But seeing by how many difficulties your present course is likely to be beset, and knowing the advantage which men may always derive from the experience of those who have trod that path before, I have thought I could best discharge the duty which the occasion has imposed, by showing you in what way you are most likely to be useful in your generation, whilst, at the same time, you should not be unmindful of those that are to follow.

Take for your object the improvement of your Profession in its highest and widest sense. View it in its several parts, but view it also as a whole. Let your separate labours be guided by the light of science; but whilst you cull from every fair and legitimate source, see that your gatherings may be so made as to be useful also to all posterity.

We have lately, as I have said, been made to feel but too painfully the feebleness of our art. There is in it still that dark centre which none of us have yet been permitted to penetrate; but it is surrounded by numerous sciences, which give it now a hopeful light. From that brilliant circle let it be your ambition each to snatch a burning brand, and, penetrating far with it the darkest recesses of the shade, there deposit your contribution of love. And let us hope, that in no distant day there may arise some mighty intellect, which shall gather up those scintillations, and combining them into one vast torch of truth, elevate it far above the obstructions of ignorance and folly, where it may burn with an unbroken lustre, and penetrate the remotest corner of the gloom.

CLINICAL LECTURE

ON A

CASE OF OSTEO-CARTILAGINOUS TUMOUR (OSTEOCHONDROPHYTE), REMOVED FROM THE FEMUR.

By R. QUAIN, F.R.S.,
Professor of Clinical Surgery in University College, and Surgeon to University College Hospital.

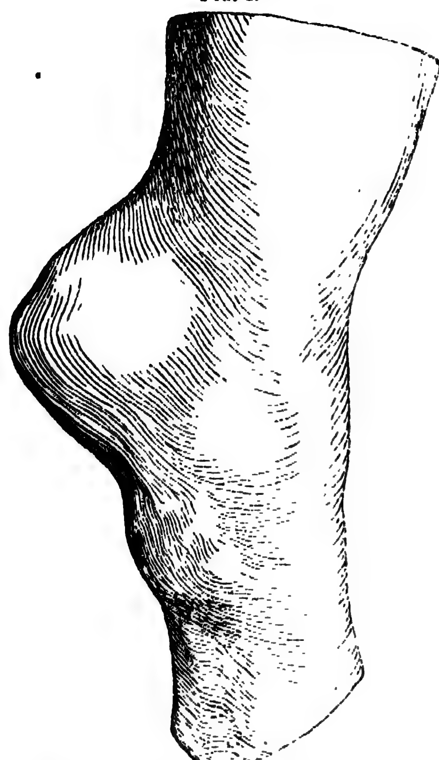
[Reported by EDMUND CARVER, M.R.C.S., lately House-Surgeon to the Hospital.]

After having made reference to some cases of exostosis which had, from time to time, been operated on in the Hospital, Mr. Quain continued as follows:—Although the case which is to form the principal subject of the present lecture has not been in the Hospital, still, inasmuch as it affords a good example of a disease seldom met with, and as I have in this cast of the limb taken before the operation, with the preparation and these drawings, ample means of illustrating all the most important facts, I am desirous to bring it fully under your notice. This is the history of the case:—

Miss B. E., a lady, aged 26, of nervous temperament, and delicate conformation, with fair skin and dark hair, has generally enjoyed pretty good, but by no means robust health. From the inner side of the femur of the right side, near its lower end, projects the tumour, of which she now complains. It was first noticed seventeen years ago, and from that time it has been increasing slowly in size till a few months since, at which time it began, and has since continued, to advance with greater rapidity. The mass itself has always been painless, but the integuments covering it are often injured by knocks against chairs and other articles of furniture, while Miss E. is engaged in her household occupations. It has thus become a source of great inconvenience, as well as of considerable anxiety of mind to the patient, so much so, that her medical attendant (my friend, Mr. Boxall, of Sussex) was led by careful observation to conclude that her health was suffering from this very anxiety.

The tumour (this part of the report, it may be observed, you will find verified by the cast of the limb in the neighbourhood of the knee-joint, which I now place before you) is about the size of a clenched hand of ordinary size, and is pyramidal in shape. Its long diameter is in the direction of the limb, but with a degree of obliquity, the lower end being inclined into the popliteal space under the

FIG. I.



This figure has been taken from the cast on a reduced scale. The position of the morbid growth with reference to the patella is marked.

muscles which bound the space on the inner side, while the upper end is directed forwards upon the anterior aspect of the bone. When the knee is straight, the tumour is close to the patella (see the cast); in fact, its lower end, in this position of the joint, is somewhat lower than the level of the top of that bone. In consequence of this circumstance, the garter has been worn close to the upper end of the patella, and, in order to fix it there, has habitually been tied very tightly. On the other hand, when the knee is flexed, the patella descends so much that the tumour then appears to be free of the joint.

The swelling is immovably connected with the femur; it is hard—bony to the feel; is uneven on the surface—a series of blunt, pointed processes projecting all over it.

The femur has its natural shape; and it does not, in any degree, blend with the diseased mass.

The surrounding soft parts are healthy; so, likewise, are the lymphatic glands in the groin. There is, in short, no evidence of any constitutional taint, either in the condition of the structures in the neighbourhood of the disease, or in the aspect of the patient. Nor does the appearance of the patient give any indication of impaired constitution.

The facts detailed in the foregoing narrative appeared to me to lead to the following conclusions respecting the nature of the disease, viz:—

1st. That, considering the slowness of the growth of the tumour, as well as its hardness and the absence of pain or uneasiness in the part, together with the sound state of the surrounding structures, and the freedom from all appearance of constitutional taint in the patient, the disease was not "malignant." If the circumstances had been the opposite to those now enumerated,—that is to say, if the morbid mass had been rapid in growth, and soft or yielding to pressure,—if it had been painful, and if the neighbouring soft parts had been involved in the disease, there would then be evidence of "malignant" disease, (soft cancer, probably). The only possible remedy, in these circumstances, would have been the removal of the limb at some distance above the disease; and, even after having resorted to this extreme measure, the Surgeon has, in such a case, too much reason to apprehend a return of the disease elsewhere, and at no distant time.

2ndly. From the fact of the femur being unaltered in shape,—not swollen or expanded into or upon the tumour, which rather rose abruptly from its surface,—this inference seemed legitimately to flow, namely, that the disease arose from the external surface of the osseous structure; in other words, that it did not pass outwards from the interior of the bone. The importance of this conclusion will be manifest, when it is considered that, had even a non-malignant growth of the kind, from time to time, developed in bones, (for example, a cystic one, or an enchondroma, or some form of osteo-sarcoma,) been formed within the substance of the femur, it would have been a question for serious consideration, whether the disease could, with safety, supposing the measure practicable, have been scooped out from the interior of a bone so large, and surrounded with a great thickness of soft parts, notwithstanding the favourable result which would be likely to attend the operation for similar disease in a small bone, or one less thickly covered. Amputation would, in this case, too, most probably have been necessary.

Lastly. Having determined the diseased structure to be a non-malignant one, and that it was only appended to the surface of the bone, it was, in the next place, inferred, from its hardness, that it consisted of bone, or of a mixture of osseous and cartilaginous tissues,—in short, that it was an exostosis, or an enchondroma containing osseous matter. Which of those textures the tumour was most likely to prove could not have been determined with certainty before its removal. Nor was the decision of any importance in a practical point of view, for in either case the disease was to be remedied only by entire removal; and both those structures are equally suitable for the operation. But, it should be added, exostoses, after growing to a certain size, in some instances, then remain stationary; and, if they produce no actual distress, it may be well to avoid the risks of an operation. In the present instance, however, the mass had been lately increasing somewhat actively, and it lay very close to the capsule of the knee-joint. Any considerable augmentation of size would augment the risks of the operation, for the parts interested in it would be more extensive, and the integuments would probably become ulcerated from pressure, so as to produce an open sore, with all its attendant evils. Moreover, the capsule of the knee-joint might become involved; and, in this event, the removal of the disease would probably be inadmissible, except with the limb itself. To these facts must be added, as no unimportant consideration, the anxiety the patient felt to be relieved of the disease, as well as the influence of this anxiety upon her health. Such were the grounds upon which the speedy removal of the tumour was recommended. Sir B. Brodie, I may add, who saw the case in consultation, agreed in the opinion that the operation ought to be performed.

The Operation.—A tourniquet having been applied, and the limb moderately bent at the knee, a longitudinal incision was made over the whole length of the tumour at its back part, near to, and in front of, the long saphenous vein; and from this another incision was drawn across the middle of the tumour to the anterior border of its base. With the integuments and the vastus internus, which formed two large angular flaps, was raised a layer of fat lying beneath the muscle, the edge of the knife being kept as strictly as possible to the very unequal surface of the tumour during the dissection.

The soft parts having been turned aside, the morbid growth was felt to be unconnected with the femur at the circumference of its base, but the interval between it and the bone was very narrow; so much so, that only a narrow chisel could be inserted. The short pedicle, if such it could be called, was now cut through with the chisel, and the investing membrane having been divided, the tumour was easily removed.

During the operation, the patient was under the influence of chloroform, administered by Dr. Snow; and Messrs. Boxall, Ellis, Cadge, and Clover, kindly lent me their assistance.

Progress of the Case.—From the 15th of December, the day on which the operation was performed, to the 20th, there was no swelling, except about the wound, from which serum oozed in good quantity. On the 21st, the prominences of the knee were indistinct, in consequence of swelling about the joint; and subsequently fluctuation was felt, owing, apparently, to a little effusion into the synovial sac; but this effusion and fluctuation were perceptible at the outer side of the patella, while none existed between the patella and the seat of the operation.

On the two following days, (22nd and 23rd,) now a week from the operation, small patches of yellowish red colour appeared on the outer side of the knee, and afterwards discolouration of the same kind, became pretty extensively diffused over the upper part of the thigh,—all at the outer side. The same appearance likewise showed itself, at a later period, on the inner aspect and fore part of the leg. A slight streak of redness was also found on the abdomen near the groin, and the inguinal glands became painful. The redness was attended with slight elevation of the surface, and tenderness to the touch. After the lapse of three days, the patches of discolouration began successively to fade, and the skin, at the same time, ceased to be tender to the touch.

A couple of days after these appearances had presented themselves on the limb that had been the seat of the operation, a rose-coloured patch was manifest on the nose, which then became swelled, and the cuticle was elevated into a vesicle. The redness and swelling soon extended to the forehead and eyelids. As at other points before referred to, the discolouration, after remaining a single day at its height, disappeared, its whole duration, at any one point, being about three days; but a small abscess formed below the left lower lid, which had been more swollen than the upper one.

January 3rd.—There has been no further appearance of the erythema, and there remains only the vestiges of the patches before adverted to, marked by slight scaling of the epithelium.

This evidently erysipelatous eruption was attended with but little constitutional disturbance. The pulse, indeed, was accelerated,—it ranged from 108 to 120; but the heat of the skin was not at any time extreme. Indeed, on the upper part of the body, the skin was generally soft and moist, and at night it was bedewed with perspiration. The tongue was always moist, and for only a short time slightly furred at the middle. There was no wandering of the intellect at any period, and the appetite for food was not much impaired.

As regards medical treatment:—It consisted chiefly in the administration of small doses of muriate of morphia (subsequently of tincture of opium), and mild aperients, colocynth pills with simple enemata.

On the subsidence of the slight fever, the patient seemed doing, in all respects, well; but, in a few days, and after all the erythema had vanished, some uneasiness was complained of about the right hip. The patient now said she had often, at former periods, felt discomfort in this situation, and that there had always been some enlargement of the part. Examination being made, the sensibility was found to be seated about the great trochanter of the femur. At first there was exquisite tenderness to the touch, and a slight fulness; and in some days fluctuation became distinctly manifest. The fluid was not circumscribed by any distinct boundary. In order to evacuate it, an incision was made on the outer side of the thigh, and another behind the trochanter. The purulent collection was seated beneath the fascia lata. Matter likewise formed, a little afterwards, at both sides of the leg, and was

evacuated through openings made for the purpose. The discharge of pus was not continued for more than a short space of time at any point. Once fully evacuated, through openings suitably placed its formation ceased, and the wound closed. But another circumstance occurred to delay, in a degree, the progress to entire recovery. In consequence of the patient having been confined, by reason of the condition of the limb, in a great measure, to one position,—on the back,—a superficial bed-sore made its appearance in the usual situation, over the sacrum. This rendered a water-bed necessary.

While the patient suffered from the formation of purulent matter and its consequences, the constitutional disturbance was at no time considerable. The pulse, indeed, was rapid, ranging from 120 to 130 and even 140; but the expression of the countenance was always good, the eye clear and intelligent, the skin soft, the tongue usually moist and pretty clean. Food was taken, the while, in good quantity, and with decided relish.

In the medical treatment, when pus was being freely discharged, there was added to the use of opiates and an occasional aperient, quinine with sulphuric acid; but for the quinine, as it seemed to disagree with the stomach, infusion of cinchona was speedily substituted, apparently much to the advantage of the patient.

Finally, notwithstanding the interruptions adverted to, recovery went steadily on. The wound made in the operation healed up, even while the abscesses were forming; and before she left her bed the patient had gained flesh considerably. Her face was decidedly fuller, and her countenance was altogether indicative of sounder health than when she came to town before the operation. She herself declared, that she felt now more in health than she had done for some years before. After her return to the country, I learned from Mr. Boxall, that our patient continued to be remarkably well, and that she was regaining the use of the limb, in which there was some stiffness when she left London.

Observations.—Taking now some of the most important of the circumstances for remark, and in an order different from that in which they have been narrated:—Here is a mild attack of traumatic erysipelas, (the "surgeon's plague," as it might be called,) not occurring in immediate connexion with the wound of the operation, but commencing at a little distance from this, showing itself then successively at different and distant parts,—the face, the abdomen, the outer side of the limb, (the operation having been on the inner side,)—and running its course rapidly, in about three days at each point. And so it would have passed off without causing impediment or delay to the patient's convalescence, had it not been for the formation of abscesses. To these I would now direct your attention.

After an operation, or a wound of any kind, the formation of pus in any amount is always a serious complication. The position in which it is deposited is, however, a material consideration in forming an estimate of its probable effects on the result of the case. Where, for example, (and I will now only state results, without entering upon any detail of the facts from which they are deduced,) where abundant purulent secretion occurs in connexion with the seat of the operation, and burrows along the periosteum, which, in such cases, it has a tendency to, the effect is very unpropitious; and where the deposit forms at a distance from the place of operation, and not in connexion with the erysipelatous inflammation of the surface, but occurs in the joints or in the viscera, (in the lungs, for instance,) the consequences are disastrous. In the case we are engaged in reviewing, the abscesses had no communication with the wound, and they were the immediate result of the local erysipelatous inflammation. Under these circumstances, apart from the condition of the patient's system, the depth and extent of the purulent deposit are chiefly to be taken into account. It is material, then, to observe, that the abscess was near the surface, and did not involve the muscles; moreover, that the purulent secretion ceased almost altogether with the evacuation of the contents of the abscess.

Again, as to the general state of the patient: the health was not, at any period, in an unfavourable condition; the pulse, indeed, was very rapid, but the rapidity of the circulation *per se* (that is to say, other circumstances being favourable, or even not unfavourable) is not to be regarded as an indication of any serious import. In conducting the case to its favourable issue, the most decided advantage was derived from the use of opiates. With a person of highly nervous temperament, as this patient might be said to be, it is most important to remove pain; and it is in procuring this effect, in other terms, it is as an anodyne rather than as a soporific, that opium, in some form, often affords so much assistance to the surgeon.

Nature of the Tumour.—The tumour is, as you observe, very irregular on the surface. Compact at the middle of its base, it is divided all over a large part of its circumference into a series of processes, which stand out from the base, and support, like so many pedicles, the thickened and rounded extremities. It has, in fact, a cauliflower arrangement, the enlarged extremities being, however, rounded off, as before stated. After a section has been made,

FIG II.



This figure represents the surface of a longitudinal section of the tumour, the longest and least curved margin being the base. The structure of the mass is indicated, the three substances of which it is composed being distinguished in the following manner:—Over the proper bony structure are seen small cells, the section of canals. The white parts (those not marked with the artist's graver) represent the dense white substance of the mass; while the cartilaginous parts are denoted by uniform and uninterrupted lines.

the mass (as you will see on inspection of the preparation) consists chiefly of bone, but with some soft cartilage at certain points. The latter structure occurs in small separate pieces towards the circumference of the tumour; and a thin layer of it covers over the surface. The osseous portion resembles very closely ordinary bone; but no inconsiderable portion of the mass near its circumference consists of white dense substance, looking as if calcified. It is within this imperfect bony structure that the cartilage is met with in insulated patches. The whole has fatty matter mixed with it in considerable quantity.

The mass was sessile upon the femur. It sprang from an elongated and narrow part of the bone, (see engraving,) the outer dense covering of which was continued into the surface of the tumour, so that when the diseased growth was removed the cancel-

FIG. III.



The base of the tumour is here represented. The place at which it was connected with the femur, and the proportion this bore to the extent of the base are at once distinguishable.

lated structure of the bone was bare. From a consideration of the small size of the connexion between the two, it would appear as if a certain extent of diseased surface of the femur gave origin to the tumour; but that, while the latter became enlarged in every direction, the bone itself was no further affected by the diseased action.

An example of a tumour growing from the humerus described and represented in M. Cruveilhier's work on Morbid Anatomy, ("Anat. Pathol. du Corps Humain," liv. xxxiv.), seems to be in all respects of similar composition to that now before us. The mass was, however, in that instance, of very large size, and was extensively connected with the bone from which it grew. It had been removed by M. Roux, by amputation at the shoulder-joint. For such growths M. Cruveilhier has proposed the distinctive name "osteochondrophyte."

Remarks on the Operation.—I have already said, that if purulent secretion occurs in any abundance at the place of operation in such a case as that we have been engaged with, the pus is likely to burrow along the periosteum, or amid the muscles. In order to guard against this evil, as far as the mode of operating can tend to this object, it is best to divide the muscles freely, and in such manner, that the matter, when formed, shall readily find its way outwards. With this view, in the case under observation, the vastus internus was cut completely across. For the same reason, it is prudent not to close up the wound in dressing it. To do so is useless, for immediate adhesion will not take place, and it may be injurious, as the pus necessarily formed may, in consequence of the arrangement of the dressings, be prevented from an easy escape.

The important parts in the neighbourhood of the tumour which it was indispensable to leave uninjured, were the popliteal vessels and the synovial membrane of the knee. Now, in all operations for the removal of diseased growths, the parts contiguous are best avoided by keeping the edge of the scalpel, during the dissection, sedulously to the surface of the mass to be removed, and this was all that could here have been required, in so far as the blood-vessels were concerned. But the synovial membrane is very thin and loose, and covered with fat, while, at the same time, the tumour was so uneven on the surface, that to follow the rule just mentioned completely out in the dissection, was not possible. For reasons, therefore, which these circumstances will at once suggest, it was important, in the present case, to lay down, as nearly as possible, the exact limits of the synovial membrane. To this end, I examined the parts on the dead body before the operation. This drawing is an exact representation of a dissection made after the synovial membrane had been nearly filled with injection;—we are at present concerned, it is to be borne in mind, with the membrane in so far only as the anterior and lateral surfaces of the femur at its lower end are interested. The following are the facts most important for the purpose in hand, which appeared in the dissection:—

1. The healthy synovial sac extends upwards two and a-half inches above the top of the patella. But this bone is moved, and with it the sac, as the joint is moved, insomuch that, when this last is forcibly bent, the patella and the upper end of the sac are two inches lower than they are in the extended position of the limb.

2. The sac gradually narrows upwards from the articular surfaces of the femur, the breadth at the lower end measuring about three and a-half inches, (or the breadth of the articular end of the bone,) and at its upper end about one inch. It is entirely in front of the bone, *i. e.*, does not cover any part of the side of the condyle.

3. To the femur, the sac is adherent only along the edge of the articular surface. Elsewhere it is merely in apposition with the surface of the bone, or is separated from it by a thin layer of loose fat. In front of the joint, on the other hand, the sac is intimately adherent to the muscles for some space (about an inch and a-half); and to the fore part of its upper surface, two narrow fleshy slips, known as the subcrureus, are connected, rather loosely, however.

From the foregoing anatomical facts the following practical inferences are deducible:—During an operation for removal of a tumour from the lower part of the femur, the joint ought to be flexed. The greatest danger of wounding the synovial membrane occurs when the tumour to be removed is situated towards the front of the bone. But even when the disease to be extirpated is in this position, it seems possible to turn down the synovial membrane with the anterior muscles from the femur, and likewise from an exostosis in this situation, provided always, however, that no unnatural adhesion has taken place. It is manifest that in any attempt to acccomplish this object, the incision through the muscles to reach the bone must be made sufficiently wide of the sac at its upper end.

The observations I have thought it necessary to make on the nature of the disease from which Miss B. E. suffered, as well as on the operation and the general management of the case, are concluded. I wish now, however, before parting with the subject altogether, to allude to a curious fact, which has not hitherto been adverted to, because it seemed to have no direct bearing on the management of the case, though it is still of too much interest to be passed over wholly without notice. By the statement of the patient, which is noted in the narrative I read to you, to the effect, namely, that her right hip was always somewhat larger than the left, I was led to institute a careful examination, and this resulted in affording proof, not only that the statement alluded to was correct, but that the whole of the right side, so far, at least, as it could conveniently be examined, was a degree larger than the left. The circumference of the arm, of the forearm, the thigh, and the leg, measured on both sides, showed a difference varying from half an inch to an inch and a half. Moreover, on close inspection, a difference of the same kind was found to exist between the two sides of the face, and the prominence of the os frontis was slightly larger on the right than the left side. As the greater size of the right side was obviously owing to the bones, the co-existence of the excess of bony deposit in the skeleton with the diseased formation on the same side of the body, must be regarded as an interesting fact.

Because of their bearing upon the same subject, I will here briefly mention two other examples of hypertrophy of portions of the osseous system, which have come under my observation.

1. A young man of unhealthy, scrofulous appearance, sent into the hospital by Mr. Hillman, to be treated for some ulcers, was observed to walk with a particularly awkward gait. Upon investigating the circumstances, I found the tibia of one side to be considerably (nearly two inches) longer than its fellow; and I ascertained, at the same time, that it exceeded by so much its due proportion to the other division of the limb. The bone was arched forwards at its middle, and the skin over it was ulcerated to the extent of from two to three inches. The difference in length between the limbs was first observed a few years previously.

2. A boy, aged 16, admitted into the Hospital under my care, was found to have a large aneurism by anastomosis, extending over the under surface of the right foot as far as the heads of the metatarsal bones, and upwards as high as the internal malleolus. Being led to make a minute examination of the case, I ascertained, by careful measurement, the circumference of the leg and foot on the side affected with the disease of the vessels to be considerably greater than on the opposite—the sound side. It turned out, too, that the limb was an inch and a half longer than its fellow, the measurements being taken between the anterior superior spines of the iliac bones and the lower edges of the internal malleoli respectively; and this excess of length was shown to belong exclusively to the bones of the leg. The whole right foot, it should be added, was considerably enlarged. In this case the pulsation of the femoral popliteal and tibial arteries was much stronger, and the vessels seemed proportionably larger on the diseased side.

In the example of hypertrophy of certain bones last adverted to, the bones, doubtless, partook with the muscles in the augmented nutrition consequent upon the increased circulation in the limb; and to this is to be ascribed the augmentation of their size. But the same reasoning does not apply to the cases previously mentioned; inasmuch as evidence of augmentation of any portion of the vascular system did not exist. The slight healthy enlargement of a portion of the osseous system, and its co-existence with a diseased osseous growth in one of the cases, as well as the morbid enlargement of a portion of the bones of one limb in the other, must, I apprehend, still remain without reasonable explanation.

LECTURES

ON

OPERATIVE OPHTHALMIC SURGERY.

DELIVERED AT THE CENTRAL LONDON OPHTHALMIC HOSPITAL.

By H. HAYNES WALTON, Esq., F.R.C.S.,
Surgeon to the Hospital, and to the St. Pancras Royal General Dispensary.

LECTURE VI.

Displacement.—Nature of the Operation.—Circumstances rendering it preferable to Extraction.—Three modes of operating.—Results.

Displacement.—GENTLEMEN,—By the operation for displacement, the cataract is not taken away, as in extraction, but is pushed out of the field of vision and impacted in the vitreous humour; it therefore becomes, in all respects, a foreign body in the interior of the eye. Displacement, as I have said elsewhere, is applicable to hard cataract only, but it is very rarely resorted to, unless there is some especial cause why the operation for extraction should not be performed.

A very small anterior chamber, and adhesion of the iris to the cornea, or to the capsule of the lens, have been spoken of, at the end of the fourth lecture, as objections to extraction. Other adverse reasons to it are, chronic cough, difficulty of exposing the globe sufficiently for the effectual division of the cornea, on account of its being deep-seated, or the brow being very prominent, or the palpebral fissure unusually narrow; and, lastly, unhealthiness of the vitreous humour.

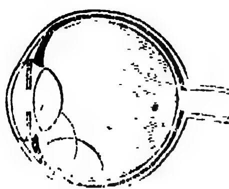
Whether any given case shall be considered unfitted for extraction, and better adapted for displacement, on account of mechanical difficulty, must often depend on what the operator's proficiency and skill may be. I have seen the cornea divided in the most perfect manner, and the iris uninjured, when the narrow dimension of the anterior chamber seemed to render such an effect almost impossible. Great practice and dexterity were brought to bear. Then, with regard to the cases of contracted lids or deeply set eyeballs, some men would reject what others undertake—and do well.

Judging from my own experience, I should say, that with those accustomed to eye operations, the latter causes very rarely deter them from extraction, although such cases demand peculiar nicety. Whenever I have to encounter such difficulties, I use a small knife, that ordinarily employed is unnecessarily large for any eye, and decidedly objectionable when there is impediment arising from want of room.

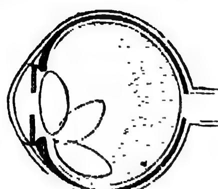
Unhealthiness of the globe renders displacement as inapplicable as extraction, and perhaps more so, except it consist in unnatural fluidity of the vitreous humour; and, even then, if the cataract could be removed, without the risk of a large portion of that humour being lost, the superiority of extraction would be great.

There are three ways of producing displacement. The oldest and now almost exploded method, "depression," is to pass the cataract downwards, till it

disappears. This diagram displays the position th lens is supposed to take.



The next mode, "reclination," disposes of the cataract by tilting it backwards, and then turning the upper edge downwards, as is illustrated in this second figure.



The more important parts within the eye, are very much less likely to be pressed on or injured by a reclined than a depressed cataract, although vitreous humour suffers more lesion by reclination, especially if it be healthy.

Diagrams of operations are likely to deceive and mislead, by the precision and accuracy which they display. This is very applicable here. The cataracts are presented as passing through their several portions, and ultimately resting just at the desired spots. Now, in reality, there is the greatest uncertainty as to where they may go, especially in depression.

In reclination, all that we can be sure of is, the turning of the cataract back; but the position it afterwards occupies is a mere matter of chance.

I shall describe displacement by reclination, omitting altogether any notice of depression. Only one instrument is required,—a needle of some sort. That here represented is the kind in most general use, and is the best adapted for the purpose.

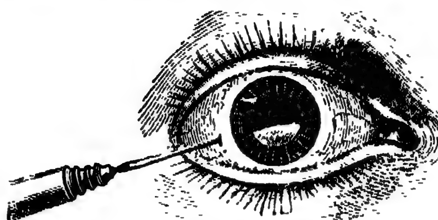
The pupil should be fully dilated. An anterior operation, through the cornea, has been proposed, and adopted by some, but is most inappropriate for the end to be fulfilled. It is only by passing the instrument through the sclerotica, that sufficient command can be tained for proper displacement.

The position of the patient, that of the operator, the manner of securing the lids and fixing the eye, should be precisely the same as if extraction were to be done. The needle, held with the convexity upwards, the handle a little depressed, to render the entrance of the curve more easy, should be introduced exactly in the transverse axis of the globe, about the sixteenth of an inch behind the cornea, avoiding the ciliary processes, retina, and long ciliary arteries, and directed inwards to the centre of the vitreous humour, then the point being carried forward, should appear between the upper part of the cataract and the iris, the needle turned, and its concavity applied on the cataract just above the centre. It must first be tilted, and afterwards pressed backwards and downwards, and made to assume, as near as possible, the position represented in the diagram. The needle must be kept on it for a few seconds, and then liberated by a slight rotatory motion, raised to the centre of the eye and withdrawn. Each step of the proceeding should be effected very slowly.

Should the cataract rise as soon as the needle is disengaged, the reclination must be repeated till it remain displaced. If, after several trials, it still re-ascend, the needle must be passed upwards and downwards between its posterior part and the vitreous humour, and laceration of the humour effected before a last trial.

Some operators think it necessary to lacerate the posterior part of the capsule before commencing the reclination. The re-ascension of the cataract is owing to the resistance offered by the vitreous humour, which must be in a healthy state, to possess that elasticity. The advantage arising from the application of the needle, between the lens and the vitreous humour is not derived, as stated by Dr. M'Kenzie, by separating adhesions between the capsule and the hyaloid membrane, but by the hole, or breach that is made in the vitreous humour. Probably, the correct practice would be, to proceed to make a rupture in that body, for the reception of the cataract, as soon as it is perceived that its elasticity offers an impediment to displacement.

This diagram may, perhaps, render more intelligible the description I have given of reclination:



If the anterior part of the capsule have not been sufficiently torn in the first instance to allow of a clear pupil, the needle must be applied to it, before being withdrawn.

Should the cataract be accidentally projected into the anterior chamber, it must be extracted. The iris being now partly, or entirely behind, can be avoided with the knife. It is recommended to make a small section in the cornea when a dislocated lens is to be removed, and to draw it out with a hook. Never having had to deal with such a difficulty, I can only tell you what others say. Sometimes a needle is passed through the cataract to steady it, and keep it *in situ*; while the cornea is being cut, I imagine the cataract-knife must pass through the cataract and the cornea at the same time; with such manœuvering destruction of the eye must be expected.

The cataract may fall into bits under the pressure of the needle. It would be impossible to effect the depression of pieces, and all that you can do is to leave them alone, except they produce irritation in the chambers of the eye, when you must extract them.

I have never seen displacement attempted when there has been adhesion of the pupil to the capsule of the lens. One or two adhesions cannot have much influence on the operation; and need not, indeed had better not, be broken across with the needle, as has been advised.

Entire papillary adhesion renders displacement as inapplicable as extinction; for, independently of the pupil being so small that it would be impossible to see what you were about, the iris must be considerably damaged before the needle could be made to appear in the front of the cataract; and if the capsule be opaque and thickened, as in all probability it would be, it will offer resistance to the needle and not yield to its pressure, and the iris is more likely to give way from its ciliary connexions than at the remaining adherent points. In such cases, "drilling" is the proper operation.

The third plan of displacement originated with Mr. Egerton, of Calcutta. The needle should be pear-pointed, and introduced into the eye just in the manner I have described for the last operation; but, instead of the point being carried to the centre of the vitreous humour for the purpose of avoiding the cataract, it is purposely passed through the cataract, the lower part of which is turned backwards, and in that oblique position is carried downwards. The late Mr. Scott used to displace by this method; but he thought it preferable not to transfix the cataract. His directions are, that "the needle should be inserted at the margin of the lens as far as it can be introduced into that body without displacing it inwards."

The supposed advantages of Egerton's plan are less injury to the hyaloid membrane, and the greater facility with which the cataract can be placed in any given position. It is better to lacerate the anterior part of the capsule, by an after-operation through the cornea, than to do it before the needle is withdrawn from the eye, because the return of the cataract to its place would thereby be endangered.

The direction to pass the needle as far as it can go without displacing the cataract inwards is very indefinite. Some cataracts are displaced by a very slight touch, and others would not move while the needle passes entirely through them. If the needle can be introduced into two-thirds of the cataract, sufficient command of it will be obtained. When it cannot be so pierced, the operation is not applicable. It is to effect the easier disengagement of the needle that Scott introduced his modification.

While at Moorfields I saw Scott operate several times, and my impression is that Egerton's is the best way to displace. I have never done it myself; why, I should be puzzled to say. In the few instances that I have resorted to displacement, reclination has been my operation.

You will not require to be told why a soft cataract cannot be pushed aside with a needle. I have seen an attempt made at it.

It is a great objection to displacement, that for its execution the interior of a healthy eye requires to be so much damaged. No condition of the vitreous humour can be said to be favourable for the operation. When, from morbid change, it readily yields to pressure, there is danger from the cataract, by its gravity, sinking and resting on the retina; or it may float about in it, and produce constant annoyance, by temporarily interrupting vision.

It is not surprising that acute inflammation of some, or all of the textures of the globe, with its consequences, should sometimes immediately follow displacement. But what is most to be dreaded is a slow, yet certainly destructive inflammation coming on at a future period, beng induced from pressure of the cataract on the iris, ciliary processes on retina, or violence done to the structure of the vitreous humour, or irritation occasioned by the unnatural position of the cataract. So long as the cataract is undissolved, and many years may pass without scarcely any change being effected in it, there is danger of this slow inflammation. Besides, the cataract may re-ascend in the tract by which it was displaced, or pass into the anterior chamber, and require to be again thrust back or extracted. Considering all these contingencies, permanency of success can never be reckoned on.

HOSPITAL REPORTS.

KING'S COLLEGE HOSPITAL.

On Saturday last, Mr. Fergusson performed the operation of Chopart. The case was that of disease of the anterior part of the foot, which had existed only for three months. It had at first been considered to involve the soft parts alone; but during the last few weeks, the disease rapidly increased. Successive abscesses formed, which were found to lead down to diseased bone, and the health of the patient was much pulled down. Mr. Fergusson therefore considered it proper to remove the disease.

The operation was performed in the ordinary manner, by carrying a large bistoury across the tarsus, entering the joint, and then making a long flap from behind. The operation is in this manner completed by most surgeons; but we observed, that Mr. Fergusson sawed off the projecting heads of the astragalus and os calcis.

On cutting into the amputated portion of foot, it was found that there was extensive disease of the soft parts, and complete destruction of the joint between the first metatarsal bone and the inner cuniform.

There was no other operation. But, the girl upon whom Mr. Fergusson performed the operation of excision of the head of the femur at the be-

ginning of the year, was shown to the students, as she had been brought up from the country, furnished with a high-heeled boot.

There was a firm healthy cicatrix in the site of the original wound; the limb was perfectly straight, and as well developed as the other in its circumference, but it was about two inches shorter, which circumstance, however, was remedied by the high-heeled boot, upon which she can walk without the help of stick or crutch. The motions of the new joint formed were very free. The little girl appeared to be quite robust, and in good spirits.

Mr. Fergusson stated to the students, that he was extremely delighted at having the present opportunity of showing to the pupils the result of the operation of the excision of the head of the femur. They could see, for themselves, the condition the patient was now in, and those who had known the child before the operation was put in force, would hardly recognize her as the same person. The limb was about two inches shorter than the other, he having removed between three and four inches of the thigh-bone, but the motions of the new joint were perfectly free.

They were aware that there had been much discussion respecting this operation, some having doubted its propriety, and denied that it could be of any use. For his part, he had now been more than twenty years in the Profession, and had seen a great number of cases of diseased bone cured by operation, and the case under notice afforded them one of the most striking examples of cure by operative interference.

PROGRESS OF MEDICAL SCIENCE.

FRANCE.

[From our own Correspondent.]

THE CHOLERA.

We have at length arrived at the very last period of the epidemic; indeed, it may be said to have ceased in the city, where not a single death from cholera has occured during the last two days. It still lingers, however, in the hospitals, and with the same remarkable peculiarity which I observed in a former letter,—*viz.*, a mortality of more than 50 per cent. on the cases admitted. The malignity of the epidemic thus remains unabated to the end. This is a curious and, I believe, novel point in its history; for we were hitherto accustomed to think that the decline as well as the commencement of the disease was marked by a certain degree of tractability, which distinguished them from the middle or violent period. In Paris, such has not been the case. The average number of admissions into the different hospitals for the past week has been eleven; the average of deaths, six to seven a day.

Another point worthy of notice is the persistence of the disease in hospitals, and other large public establishments, after its cessation in the town. This would lead to the idea either of *foci* of infection from agglomeration, or to actual contagion from proximity.

Thus, of the 22 cases reported from the different hospitals for the 5th and 6th of October, 16 occurred in the hospitals, and only 6 admitted from the city. The total number of cases remaining is 192; of which 61 are at the Hotel Dieu, 35 at le Pitié, 24 at St. Louis, 18 at Beaujon, and 7 at la Charité. The great majority, moreover, of these patients do not remain in hospital as convalescents from cholera, but from the various diseases under which they laboured when the epidemic seized them in its grasp.

The accounts from the provinces are still very discouraging. In the south of France indescribable confusion and terror prevail. The inhabitants of the large cities attacked take the extreme, but, at the same time, prudent measure of abandoning their habitations altogether. Thus, Toulon is represented as almost completely depopulated; not more than 10,000 persons remain in the town. This cholerophobia has given rise to an incident which excited great sensation in the military world, and which, for the honour of the Medical Profession, we trust may be unique. The chief Surgeon of the military hospital fled with the rest of the inhabitants alleging as an excuse that he had just succeeded to a fortune of 100,000 francs, and saw no longer any necessity for risking a life which had now become precious to him. His selfish and dastardly conduct soon met its reward. The *Moniteur* contains an "order of the day," signed by the Minister of War, and countersigned by Louis Napoleon himself, in which the unfortunate man is stigmatised as "a coward and as a deserter," dismissed ignominiously for having abandoned his post in the hour of danger, and condemned to three months' imprisonment for pusilanimity.

At Lyons, again, a curious scene is said to have occurred at the theatre, during the performance of "*La Jeunesse des Mousquetaines.*" A gentleman in the pit, having mounted on one of the benches demanded a moment's attention. Dead silence immediately prevailed, whereon the speaker asked if Mr. B. were in the theatre. The person thus addressed came forward in the boxes, and was informed, in the same tone, that his mother, whom he had left in health, was expiring from cholera, and entreated her son to return without delay. This announcement of "the king of terrors," the midst of enjoyment, produced an indescribable effect, and the theatre was soon empty.

A case similar to one which presented itself many years ago in London, recently occurred here, and occasioned no small scandal in the academic world. Seven medical students, many of them connected with highly respectable families, were tried for forgery of public documents,—a crime much more severely punished here than forgery affecting a private individual.

Two persons of education,—one a young man named Paulus, of 22 years of age; the other a Professor, named Charvin,—had long carried on a profitable speculation in procuring for the students the diploma of "Bachelor of Letters," which each student is bound to take out before matriculation in medicine. Paulus, from his youth and the extreme juvenility of his figure, was well calculated to represent the candidates. This he did with success and under various disguises, sometimes passing three or four examinations a day. M. Charvin completed the diplomas, by counterfeiting the necessary signatures. The trade flourished, it seems, for a long time; but a lynx-eyed Examiner at last saw through the disguise of M. Paulus, and the conspirators were arrested, with five diplomas in their pockets. Paulus was condemned to five years' imprisonment; Charvin, to three; and the five students let off, in consideration of their youth and inexperience.

LIGATURE OF THE PNEUMO-GASTRIC NERVE.

An unfortunate case, which from its misadventure becomes highly interesting, recently occurred in the practice of M. Chassaignac.

A woman, labouring under cancer of the velum palati, presented herself at the surgical consultation, and it was decided to try the chances of an operation. As the cancerous matter seemed to extend considerably beyond the walls of the velum, it was thought prudent to tie the carotid artery as a preliminary measure. This was done; but as the *post mortem* proved, the nervus vagus was included in the ligature, and the woman died on the eighth day. Neither the functions of respiration or digestion were in the least disturbed; but the voice was immediately extinguished.

The physiological considerations to which the foregoing case gives rise are at once important and interesting. It is not often that we have an experiment of the kind, with its results on the human body; and the above throws much light on the functions of the eighth pair, which have been differently interpreted by different physiologists.

Legallois, for example, affirmed that ligature of this nerve, near its origin, suddenly arrested respiration; and Percy held, with equal certainty, that the *primum mobile* of all the respiratory movements resided in that part of the medulla oblongata, (the restiform bodies,) whence the roots of the eighth pair take their origin. Lastly, M. Flourens, after a series of careful experiments, decided that the respiratory tract of the medulla was limited, superiorly, just above the origin of the eighth pair, and, inferiorly, about three lines below the origin.

M. Serres, in his treatise on comparative physiology, connects the movements of the heart with the olivary bodies, those of the lungs with the restiform bodies, and those of the stomach with the band which separates the olivary and restiform bodies.

Majendie's experiments would lead to the conclusion that section of the vagus has no influence on the movements of the stomach, while Bichot affirmed, that irritation of one or both of these nerves caused the stomach to contract. Tideman and Gmelin attribute the movements of the stomach to the eighth pair, and M. Breschet, as well as M. Edwards, excited muscular contraction of the organ by electricity or mechanical irritation of the pneumo-gastric.

Finally, M. Longet excited evident contraction of the stomach in dogs by galvanic or mechanical irritation of the nerve. Now, in the case related by M. Chassaignac, neither of the functions of the lungs or of the stomach were disturbed in the slightest degree; but the power of articulating sounds was immediately annihilated, and the case, moreover, proves that we cannot apply to the human subject the result of physiological experiments performed on inferior animals—a truth too often overlooked by the disciples of the Majendie school.

INOCULATION OF THE VENEREAL DISEASE.

M. Diday, late head surgeon to the Venereal Hospital of Lyons, has addressed to the two Academies a long, and, in many respects, curious memoir "On Process of Vaccination calculated to preserve Patients from Constitutional Syphilis."

The process consists simply in inoculating the patient with the blood of a person labouring under tertiary syphilis; and the author regards the effects of this inoculation as preservative from the constitutional disorder. It is unnecessary to say, that the patients affected with primary syphilis, and inoculated as above mentioned, were abandoned to nature without any species of constitutional treatment whatever.

Sixteen persons were treated in this manner. The local effects of the inoculation were insignificant. The chancres and bubos, dressed in the usual manner, healed as ordinarily, without presenting anything worthy of notice.

In order to obtain accurate details of the results, M. Diday followed the cases with the utmost care for many months, and the following are the results of his investigations:—Of the sixteen patients, fifteen remained free from any trace of constitutional taint up to the present time, that is, for a period varying from six to fourteen months after inoculation. As to the single case of exception, it may be remarked, that this patient was inoculated by mistake; in fact, he laboured under indurated chancre; and M. Diday makes it a rule not to inoculate any patient affected with this species of chancre, because he regards the induration as a certain sign that the constitution has been tainted. For the same reason he does not inoculate after the sixth day. The experiments of the Author are not on a sufficiently large scale to enable us to draw from them any positive conclusion; but the method certainly deserves trial. It is difficult to admit a mere coincidence. Hunter affirms, that hardly one patient out of fifty escapes secondary symptoms, if the chancre be treated locally only. M. Cazenave thinks, that eighteen out of twenty will have them, unless mercury be used. Cullerier asserts, that a moiety of non-indurated chancres are followed by constitutional effects. Most writers on the venereal disease adopt the same views; and when we remember, that the patients of M. Diday were for the most part soldiers on leave, and characters of an abandoned kind, exposed to all the causes which develope constitutional symptoms, it is difficult to conceive that their absence was a mere coincidence. But time alone can tell.

LITHOTRITY BY THE PERINÆUM.

M. Bouisson, Professor of Clinical Surgery to

the Faculty of Montpellier, proposes this mode of operating in certain cases where it is impossible to arrive at the bladder through the ordinary channel. He relates two cases in support of his views. One refers to a merchant, labouring under stone, who had already undergone the operation of lithotomy. The results of this operation, which appears to have been badly performed, were a fistulous opening in the membranous portion of the urethra, and two strictures, one in front of the fistula, and the other close to the prostate. The patient, moreover, had a second calculus, and his bladder was in a very bad state.

After preliminary treatment, M. Bouisson passed an instrument through the fistula, and easily crushed the stone; but the cure of the fistula presented many serious difficulties. It was necessary to force an artificial passage through the strictures, which were nearly cartilaginous, to remove the callous edges, and practice suture of the urethra. The latter operation succeeded, and the patient was cured after a very protracted treatment.

The second case was one of a similar kind,—a vesical calculus, complicated with stricture, at the curve of the urethra and perineal fistula. As in the former example, the calculus was crushed through the fistula, and, as the latter was not cartilaginous it was more easily cured by dilatation. The healing of the fistula took place under the permanent use of bougies, and touching its edges with the nitrate of silver.

GERMANY.

INFANTILE TYPHUS.

In the *Archiv fur Physiologische Heilkunde*, as quoted from the *Gazette Medicale*, Dr. Friedleben has given the results of his experience of four epidemics of infantile typhus; the first extending from February to April, 1844, and from July to August in the same year. Then in January and February, 1846, and during July and August of the same year. During the months of January and February, 1846, typhus was confined almost exclusively to children, affecting the adult more particularly during April and May. In the course of the three years, 1844, 1845, and 1846, the Doctor had under his charge 1842 children (880 boys and 962 girls), of which 98 cases were typhoid, to wit, 46 boys and 52 girls. Among these only one was under one year, 23 ranged from two to five, 32 from five to eight, 22 from eight to eleven, 12 from eleven to fourteen, and 8 above fourteen. The endemic, therefore, fell with its greatest force on children between the second and eleventh years; and was more prevalent in winter and summer, than in the autumn and spring.

The pathological character of this disease is detailed with great fidelity, and all the organic derangements of the intestinal canal, the lymphatic glands, the liver, the spleen, the kidneys, as well as of the circulating and respiratory system, and of the brain, are faithfully described.

The glands of Peyer, were much swollen; some of them being a line and a half in thickness. The swelling was not, however, always uniform,—the centre being frequently more elevated than the margins. Their surface was unequal, owing to the presence of capsules, which gave them the appearance of ulceration. The number of the diseased glands varied from six to twenty. They were of a bluish, livid tint, soft, and easily detached. No change seemed to have occurred in the other coats of the intestine, with the exception of the sub-glandular cellular tissue, which presented the appearance of softening. Such were the appearances noticed in cases which proved fatal before the twenty-third day. When disease was protracted beyond that period, induration of the glands occurred.

According to the opinion of the author, all the glands which became developed before the twenty-first day were the soft; those later, the hard. His observations establish the views of MM. Rilliet and Barthez, as also those of Barrier on the progress of inflammation of the glands. Severe ulceration of these may occur in exceedingly young subjects; they were witnessed in a case only two years and a half old. They may take place at a very early period, even on the eighth day, but cicatrization does not begin before the twenty-first day; its progress is found to be more rapid than in adults.

The mucous membrane is usually sound, being changed in appearance only in the immediate vicinity of the glands. In one instance, the mucous membrane of the stomach was observed to be inflamed. The sub-mucous cellular tissue was always natural. Changes are invariably discovered in the mesenteric glands; they are usually red and swollen, particularly at the beginning of the disease; infiltration and softening is rare: and, in the opinion of the author, the former only occurs in very serious cases, where there has been disorganization of the condition of the blood.

The general conclusions are as follows:—

1. The glands of Peyer, and as a consequence the mesenteric, are the local seat of infantile typhus.
2. During the first three weeks there is only simple inflammation of the follicles (plaques molles).
3. This (plaques molles) may terminate in resolution without ulceration; when this takes place, it gives rise to the first form mentioned in the paper.
4. The progress of the cicatrization of these ulcers is very rapid.
5. When the morbid action extends beyond the twenty-first day, infiltration of the glands of Peyer may occur, (plaques dures.)
6. The infiltration begins in the glands in the proximity of the great intestine.
7. This leads necessarily to ulceration, constituting the second form of ulcerations.
8. Cicatrization takes place very slowly in these last.
9. After the twenty-first day, the two modes of ulceration may be discovered united together.
10. In all the cases terminating favourably, and in the generality of those ending in death, the mesenteric glands are only affected by a simple inflammatory softening.
11. The changes of the spleen are simultaneous with those above described.
12. All the complications which happen before the twenty-first day, are of a very distinct inflammatory character.
13. The chemical character of the blood agrees with that state.

Hence the corollary is obvious, that infantile typhus for the first three weeks consists essentially in follicular inflammation of the intestines, which readily admits of cure, and is essentially distinguished from the typhus of adults.

SCOTLAND.

[From our own Correspondent.]

Our curiosity is much excited to learn more of the supposed fungus vegetable bodies described as being found in cholera discharges, and in the atmosphere and water of the localities where pestilence prevails. We are all much pleased with the judicious remarks in the two last Numbers of the *Medical Times* on this still so doubtful discovery. Besides the Bristol observers, Brittan, Budd and Swayne, we see two new converts to the subject have appeared, Dr. Baly of the Millbank Prison, and Dr. T. Williams, of Swansea; nor does the non-medical Correspondent of the *Medical Times*, the civil engineer, Mr. Gilbert, pass unnoticed. Dr. Baly's observation is of considerable moment, showing bodies of a similar, though not of the same figure, in dysentery; and his observation will be of still higher importance, if the bodies which he has described be determined to be absent in sporadic dysentery, and to be present only in epidemic dysentery. It is, however, far from being a settled point, that either the cholera bodies or dysentery bodies are truly vegetable organisms, and the pertinent questions in the *Medical Times* of September 29—1, as to their existence in all cholera discharges; 2, and in all cholera localities; 3, as to their absence in all other diseases; 4, and in all localities where there is no cholera,—have still to be answered in the affirmative.

Our microscopic pathologists here have not been idle since intelligence of the Bristol views reached Edinburgh; and we believe an investigation of the microscopic bodies discovered in the dejections of cholera patients, and in the air of our chief cholera hospital is already so far completed, that their various forms have been successfully delineated, and that the second not less essential step, namely, the search for the same or similar bodies in the corresponding discharges of persons in health, or affected with other diseases, is also commenced, and likely to be carried on with the requisite diligence.

In the mean time, discourse runs on the greater or less probability of this investigation leading to any definite result. All are agreed, that Dr. Budd has not shown himself much of a philosopher in the *Times* newspaper. The decision of the question, even if these bodies were already proved to be distinct vegetable organisms, and if all the questions before referred to were already answered in the affirmative, would still be attended with very great difficulties. In short, numerous obstacles will arise before we can reach the satisfactory conviction, that minute vegetable organisms floating in the atmosphere, or contained in the water which we drink, constitute the definite exciting cause of cholera in the same sense in which a peculiar virus is the exciting cause of small-pox. There is nothing analogous to such an hypothesis in the whole etiology of diseases. Such a cause cannot act in a manner analogous to any of the known poisonous fungi, because, not to speak of the difference in the bulk of a myriad of such invisible organisms, all who breathed the air, or drank the water of the affected locality, though they might escape the fully-developed type of the disease, would at least show some signs of having been subjected to the poison. All probability is, therefore, against the reality of such a cause, because the assumption implies a striking anomaly in the course of nature. Thus, the mere co-existence of these fungi with cholera, thought it were proved exclusive, neither proves such an agency to be the cause, nor even renders it likely to be the cause. We are far from saying, that the want of probability is a sufficient ground for rejecting such an agency, after its exclusive co-existence with cholera is satisfactorily proved; but this want of probability compels us to seek stronger evidence than would suffice were there distinct analogies in its favour. The parallel insect theory of the origin of certain diseases has existed for more than two centuries. It can boast of many supporters of high name since the days of the Jesuit Kircher, who seems to have first broached it. In the last century, Linnæus was among its zealous supporters, and of living authorities in its favour it numbers at least one practical physician of sober judgment, Dr. Henry Holland. Dr. Holland endeavours to show that the influence on which the spread of cholera is dependent corresponds with the laws governing the diffusion neither of purely physical agents, nor of vegetable bodies, but only of animal existences. But, what progress has the insect-theory made? After an existence of more than two centuries, it is still in embryo, and there is not much more promise in behalf of the theory of the vegetable origin of cholera.

Finances of the College.—From the report just published of the receipts and expenditure of the Royal College of Surgeons, it appears that in the year, from the 30th of June, 1848, to the 30th of June, 1849, the former amounted to 9366*l*. 19s. 5d., derived from the fees of admission to the Fellowship, Membership admission to the Council and Court of Examiners, and sale of collegiate publications; inclusive also of the sum of 653*l*. 17s. 6d., paid for the old materials of the warehouse, purchased of Alderman Copeland. The disbursements amounted to 9243*l*. 14s. 1d., being within 123*l*. 5s. 4d. of the receipts. From the above, it appears that the incidental income is 8415*l*. 16s. 2d.; the expenditure, 5636*l*. 19s. 7d.; the permanent income, 951*l*. 3s. 3d.; and the permanent expenditure, 3606*l*. 14s. 6d.

Complaints having reached us of the irregular delivery of the MEDICAL TIMES *in the country by the Booksellers and Newsmen, we state, for the information of our readers, that this Journal is always published early on Friday afternoon, so that it may reach the Provinces by post on Saturday morning.*

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THE MEDICAL TIMES.

SATURDAY, OCTOBER 13, 1849.

EVERY public journal of weight and influence has, during the last year, directed attention to the fact, that the crime of secret murder is fearfully great, and, among the many suggestions which have been offered in the hope that a check might be put upon this enormity, those only are of value which are based upon a belief that the crime owes its origin to what is aptly termed the uncertainty of detection. Fully persuaded of this, Mr. Coroner Payne and his professional brethren are for having more inquests; while we, possessed of a like amount of conviction, as regards the first element of their creed, are for having those inquests better conducted. They should, in truth, be inquiries, founded, in great part, on the experience and knowledge of the Medical Practitioner, and guided by all the lights which medical science is capable of throwing upon the subject. Under such circumstances, we feel convinced, that the records of the Coroner's Court would furnish but few instances of error, and still fewer of such unsatisfactory verdicts as "Death by the visitation of God," "Found dead," and so on; but, on the contrary, the results of the Coroner's investigations would be so absolute and certain as to inspire the criminal with dread and the public with confidence.

In order, however, to effect this desirable object, one of the first and most essential conditions, is a better remuneration for Medical witnesses, and a fuller application of the extensive powers of Medical Science; for at the present time there is scarcely one inquest out of three, in which the services of the Medical practitioner are at all demanded: and, notwithstanding the Act relating to Medical witnesses states, that "whenever, upon the summoning, or holding of any Coroner's inquest, it shall appear to the Coroner, that the deceased person was attended at his death, or during his last illness, by any legally qualified Medical practitioner, it shall be lawful for the coroner to issue his order for the attendance of such practitioner as a witness at such inquest; and if it shall appear to the Coroner that the deceased person was not attended at or immediately before his death by any legally-qualified Medical practitioner, it shall be lawful for the coroner to issue such order for the attendance of any legally-qualified Medical practitioner, being at the time in actual practice in or near the place where the death has happened;" yet the Coroner is, in many instances, accustomed to rely upon very shallow evidence furnished by non-medical witnesses, in order that he may, on the one hand, make a show upon the face of his proceedings; and, on the other, save the county from those expenses which are absolutely necessary to the proper elucidation of the case; for the law states—

"1st. To every legally-qualified Practitioner, for attending to give evidence under the provisions of this Act, at any coroner's inquest whereat no *post-mortem* examination has been made by such Practitioner, the fee or remuneration shall be one guinea.

"2nd. For the making of a *post-mortem* examination of the body of the deceased, either with or without an analysis of the contents of the stomach or intestines, and for attending to give evidence thereon, the fee or remuneration shall be two guineas."

But, poor as this pittance is, the payment of it is, as we have already said, avoided upon all occasions, and upon all sorts of pleas; sometimes because the Practitioner has not received a Medical summons; and at others, because he has made an examination of the dead body without an especial order; for according to one of the provisions of the law, "it is enacted, that no order for payment shall be given, or fee or remuneration paid, to any Medical Practitioner for the performance of *post-mortem* examination which may be instituted without the previous direction of the Coroner." So that the efforts of the Medical Witness are often greatly checked by the knowledge, that no remuneration will follow upon any kind of services which have not been ordered and directed by the Coroner.

Again, there is a manifest deficiency in those portions of the Act which relate to the duties of the Medical Witness; for it is therein merely stated, that the Practitioner shall make an analysis of the contents of the *stomach and intestines*. Now, the progress of chemical science has clearly shown, that, in by far the greater number of cases of poisoning, the *corpus delicti* is to be found, not only in the contents of the stomach and intestines, but also in the general tissues of the body; and, in order to elicit this, which is by far the most conclusive part of the chemical evidence, inasmuch as it proves that the poisonous agent has really been absorbed, and must, therefore, have gained access to the body during the life-time of the individual, it is necessary to make an elaborate chemical investigation, which requires time, expensive materials, and great tact. But such a process of research is not provided for in the Act, and is not, therefore, compensated by any remuneration allowable by law. Moreover, it is not, by any means, an unusual circumstance for the Coroner to require the additional services of the Medical Practitioner in ascertaining the nature of other matters than those found in the dead body, in order that he may be enabled to determine the source of the poison, as well as the fact of its having been administered; but for such investigations as these the law has has made no provision; on the contrary, let the inquiry be as extensive as it may, it limits the fee to two guineas; and the Magistrate is ever absolute in preventing the Coroner from giving a greater sum than this,—consequently, in many cases, the Practitioner is compelled, either to forego the complete investigation of the matter, or, undertaking it, he must trust to the chance of a Judge's order for an equitable remuneration.

Such a condition of things demands an immediate reform, and yet we hardly know how so desirable an object is to be effected; perhaps however, a somewhat positive bearing on the part of the Medical Practitioner may in time lead to it; for, as all inquests are instituted for the purpose of ascertaining the cause of death, they can hardly ever be considered as complete, without the testimony and opinion of a Medical Practitioner. In all cases, therefore, in which an inquest has been conducted without the employment of such testimony, the Medical Man is bound to communicate either with the Coroner or the Secretary of State respecting the omission.

Again, on making a *post-mortem* examination of the body, should the Medical Practitioner suspect from the nature of the symptoms, or from the appearance of the viscera, that poison has been administered, it is his duty to transfer certain portions of the body with all care into the custody of some one who is well versed in chemico-legal researches; by which means he will, without endangering either his reputation or his fee, save himself from the expense and responsibility of a chemical analysis; for it is provided, that "whenever it shall appear to the greater number of jurymen sitting at any Coroner's inquest, that the cause of death has not been satisfactorily explained by the evidence of the Medical Practitioner, or other witness or witnesses who may be examined at the first instance, such greater number of the jurymen are authorised and empowered to name to the Coroner, in writing, any other legally qualified Practitioner or Practitioners, and to require the Coroner to issue his order for the attendance of such last-mentioned Medical Practitioner or Practitioners, as a witness or witnesses, and for the performance of a *post-mortem* examination, with or without an analysis of the contents of the stomach or intestines, whether such an examination has been performed before or not; and if the Coroner, having been thereunto required, shall refuse to issue such order, he shall be deemed guilty of a misdemeanour, and shall be punishable in like manner as if the same were a misdemeanour at common law." And, therefore, in giving testimony in such a case, the Medical Practitioner will always do well to confine himself strictly to the symptoms and *post-mortem* appearances, leaving the chemical part of the inquiry to some one who is practically conversant with the difficulties connected with it. By this means he will be doing his best to forward the ends of justice, not only as regards the issue of the case itself, but also as regards the matter of Medical remuneration; and he need not fear that the fees will be withheld by the magistrate, for it has lately been decided by Lord Denman, in the case of the "Queen *versus* the Justices of Carmarthenshire," that magistrates have no control whatever over the legal fees paid by the Coroner out of his own pocket, and this functionary can, therefore, employ as many Medical witnesses,

in any case, as the jury may deem necessary for the elucidation of it.

TESTIMONIALISM.

We live in strange times and witness strange events. States are convulsed—empires are overthrown—every class of the community is in constant agitation, either for the purpose of maintaining its rights or extending its influence. The age of repose, or of quiet and contemplative enjoyment, is past. Amidst a vast amount of wealth, and of the command of luxuries hitherto unknown, society is heaving to and fro from intestine commotion. Analyse any of its divisions—the manufacturing, the commercial, or the professional—and each will present an accurate picture of the whole.

In former times, the acknowledged scientific attainments of an individual, and the implied requisite moral qualities, rendered him an eligible candidate for any office to which he aspired. He never dreamed of the necessity of obtaining, from his intimate friend, a written character, stating, in glowing terms, what an admirable husband and parent he was:—how exemplary in all the relations of life—how assiduous had been his application to Professional pursuits—how dearly he was beloved by all who had the honour of his acquaintance—how much the proposed change in the field of his exertions would distress his immediate friends—and what a void would be left in the social and intellectual circle by his removal; nor did the candidate apply to his pastor, to certify, that he had long occupied a pew in his church, and was extremely regular in his attendance, and correct in the discharge of his religious duties. All these things were unknown. They are the offspring of a new order of affairs; and well, indeed, it would have been for the dignity of the Profession, and the self-respect of the candidates themselves, if the idea of a recourse to such practices had been treated with deserved contempt.

The prevailing complaint among the Profession themselves, is the constant deviation from strict professional usages,—a tendency towards the adoption of means thoroughly commercial in letter and in spirit; laying aside all delicate and fastidious considerations in harmony with the importance, the requirements, and the character of the healing art. The professional man is naturally taught to feel that he is not a trader, nor ought he to be lowered in his own or the estimation of others, by practices which have not hitherto been recognised as honourable. The porter, the cook, and the matron, and every needy aspirant to a vacant office, accumulate testimonials in favour of their honesty, probity, and fitness to discharge its duties. This is all right and unobjectionable. Their position in life does not necessarily imply the possession of these qualities. But what are we to think of the members of a learned Profession—men who have established a respectable *status* in the estimation of the public by works of deserved reputation, so far forgetting themselves, as to apply to almost every one whom they knew, and even to those to whom they were personally unknown, *for a certificate of character?* Surely such things have not come to pass. This must be a dream—a suggestion of what is possible in the future. It is, however, a real fact, and one which will not readily be forgotten. A vacant Chair of St. Andrews, worth 300*l*. per annum, has brought into the field five Candidates, Drs. Day, Paterson, Redfern, Harvey, and Glover.

All those gentlemen have excellent qualifications, and claims worthy of consideration; and they have actually deluged Edinburgh and St. Andrews with books of testimonials, of such magnitude that they would cause indigestion, if waded through after a comfortable repast. We have *first* and *second* editions, and, if the struggle had been much longer protracted, every printing press in our beloved and classic city of Edinburgh would have been fully employed in furnishing a lengthened series of new certified characters. We hope that the College authorities in future, will consider the advantage that it would be to trade, if they allowed such contests to continue for, at least, twelve months. We throw out the hint, and many worse have been suggested.

Is not this a strange picture of the existing state of the Profession, when members of it of decided talent, of acknowledged ability, and whose scientific labours are evidence of it, publish almost volumes of letters in reference to *their moral, social, and mental fitness?* This, indeed, tells of the degrading expedients and calculations of trade.

We regret that there was not one among them that dared to assert the dignity of his position—his right to consideration from what he had done as a scientific inquirer;—an exception of this kind would almost have redeemed the erring proceedings of the whole. The example would have been of high value, and would have stood out, on subsequent occasions, whatever might have been the result, in bold and proud relief to the dead flatness of common and humiliating conduct.

If these gentlemen do not feel that they are degraded in their own estimation, they are wanting in a refined sensibility of their own worth, and have certainly no fastidious sense of the delicate proprieties of professional life. They, however, are not alone to blame. Those who have written the testimonials are equally in fault. Out of the hundreds applied to, one had the independence to refuse the request, and on the ground, *that such a system was bad and derogatory to the Profession.* What are nine-tenths of the testimonials worth, furnished on such occasions? To impart any value to them, they must emanate alone from those who, from their station, admitted talents, and scientific reputation, have the privilege to express an opinion. It is preposterous and absurd for men generally to imagine, that they have an importance sufficient to entitle them to exercise the right. Before they presume to do this, let them first establish a position for themselves. To appreciate the abilities and fitness of others for any office, it is necessary to be a *judge* of those abilities, and of their aptitude to discharge the duties of it. And these cannot be justly estimated except by those who are among the *élite* of the scientific, and who have given evidence of the possession of commanding talent. An analysis of the mass of testimonials lying before us, does not present generally the required qualities in those who have thus stepped out to record their individual sentiments. A respect or admiration for the talents of our friends may induce us to pass the sober bounds of delicacy in executing the disagreeable task of recommendation; but what is the value of an opinion derived from such sources, flowing from the heart, and not from the well-furnished or enlarged understanding? It is not worth the paper on which it is written. Some of the gentlemen called upon for an eulogy—for a letter of credit—say, that the best Testimonial they can give, *is the regret they will feel in the loss of the society of the candidate,* should he be successful in the attainment of his object. What nonsense! What relation has their regret to the onerous duties of the office, or to the peculiar fitness of the person to perform them efficiently? Had the Testimonial been given to introduce the candidate to some wealthy capitalist, as one in every way worthy of drawing upon his coffers, it would have been in excellent taste, and might possibly have substantially served him.

The consideration of this system of Testimonialism, and the extent to which it has been carried, on the present occasion, are suggestive of thoughts we cannot well suppress. All the candidates are pretty equally lauded. In praise of them, the English language has been nearly exhausted of its superlatives, and, at the same time, of its choice and comprehensive words. There never were such men, and probably will never be again. In morals and social qualities, they are perfection. In understanding, they have every rare and distinguished faculty; studious and enterprising in the acquisition of knowledge; displaying large and original views; eminent for their practical abilities; fluent, eloquent, persuasive, and impressive, in their public discourses,—awakening in all who come within the sphere of their influence, sentiments of admiration and unutterable feelings of esteem; standing high in official medical appointments, and universally known as the fortunate possessors of this unequalled combination of unequalled excellences. Is this enough? We have not half drawn upon our resources—the testimonials lying upon our table. We have said nothing of the kindness of heart, or of the amiable disposition of the individuals; how much they are endeared to all who know them; nor have we alluded to the pew which they adorn and occupy with exemplary punctuality, or to that invaluable talent of innoculating those who attend their lectures, with the same enthusiastic spirit of scientific research by which they are animated, leading them by short steps from the discovery of one grand truth to another. This, after all, is an inadequate description of the claims of the candidates, as attested by hundreds of *unbiassed and competent judges.*

The contemplation of these qualities places us in a dilemma, which offers only three ways of escape. The chair which is vacant yields 300*l*. per annum. This is the pecuniary value of the object of their ambition; and its locality is a small, obscure city, that has got prematurely old,—outlived its once respectable reputation, and like some of the softer sex, in its advanced years, has been much neglected by

the rising generation, almost unnoticed, except, on these extraordinary occasions, when th good old lady creates a few ardent admirers by the glittering bribe which she temptingly displays.

To return, however, to the consideration o: the subject, in a mood in accordance with its importance, we would ask, Are we to believe these Testimonials? Are they strictly correct in their representations, or are they a gross exaggeration of ordinary mental qualities? We suspect, and we have some ground for our suspicion, that Sir David Brewster has distributed among the friends of the candidates some of his admirable kaleidoscopes on a large scale; and, instead of their usual contents—bits of coloured glass—the aspirants themselves have been placed in them by their respective admirers. Hence the beautiful and unequalled forms which have broken upon the view, on every slight and anxious agitation of the materials. Constant variety, but always variety in its highest excellence. Sometimes the seductive qualities of the heart arrested the attention in warm and glowing hues; at another time the mind, in a halo of light extending far into the future, fixed the observer in a trance, by the lavish display of the rich fruits of genius—important scientific discoveries—seizing Nature in her secret operations, and dragging her, thus caught, into open day; another agitation of the instrument presents an endless group of friends surrounding the candidate of their choice, and, by their expression, luxuriously enjoying his social qualities, and listening in raptures to his fluent and eloquent tongue; but their countenances occasionally saddened at the thought, that his success would be his removal to another scene of action. No one knows (except ourselves) what the genius of Sir David Brewster has done in this matter; and where does his genius not leave an impression of its brilliancy and power! He is himself a magnificent kaleidoscope, constantly presenting variety, beauty, and excellence to our view. He is an honour to his country, and one of the few that will transmit an imperishable name to distant times.

This, however, is an episode. If the candidates possess these extraordinary excellences, combining the accomplished chemist, the practical physiologist, and experienced physician with numerous other professional adjuncts, and crowds of admiring friends: how does it happen *that an income so limited*, after years of study, toil, and scientific research, with a reputation for every virtue under heaven, should be worthy their ambition? Let those who contemplate entering the Medical Profession ponder well on these matters. They are full of significance; and the painful truth with which they are fraught lies naked upon the surface. The plain fact is—and why disguise it? one of three conclusions forces itself on the mind:—the public have not appreciated their claims; that the Profession abounds in men of the same mental calibre; or, which is much nearer the truth, their abilities have been greatly exaggerated. They are all men of unquestionable respectability, some possessing more than an average of talent; but they have been so ridiculously caricatured by their friends and admirers, that it is difficult to form a sober estimate of their worth.

The testimonials, generally, are a curiosity in a literary point of view; and if the judgment of some of those who penned them, is to be estimated by their knowledge of the English language, it is certainly not particularly distinguished for its soundness.

THE OPERATIVE SURGERY OF JOHANN FRIEDRICH DIEFFENBACH.

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(Continued from page 222.)

CHAPTER IX.

THE LIGATURE OF ARTERIES.

Ligatura Arteriarum.

The ligature of an artery implies the tying of it with a thread in order to interrupt the circulation of the blood and effect its obliteration. The purpose of the operation is either the arrest of hæmorrhage from a wounded vessel, or the diversion of the flow of blood from a diseased artery, as in aneurism, or he diminution of morbidly-augmented development, as in the instance of tumour.

Although Celsus has the merit of being the inventor of the ligature on wounded arteries, Paré was the first surgeon who inculcated the importance of the practice.

The action of the ligature upon an artery is a sudden stoppage to the passage of the blood which stagnates between the ligature and the nearest collateral branch; but eventually continues its course, by anastomosing branches situate above. When an artery is properly tied with a thin waxed silken thread, the internal and middle coats are cut through, and the cellular tunic contracted to a fine puckered fold. The stagnating blood coagulates and forms a cone, of which the base is towards the site of the ligature, while the apex extends to the first collateral branch. This cone is progressively absorbed, and there just remains sufficient of the plastic contents to bring about the adhesion of the inner surface in connexion with the effusion from the walls of the inflamed part. Under such circumstances, the vessel appears as a solid band. The outer surface of the artery is bound to the adjunct parts by inflammatory exudation, resembling a thick ring, which intimately incloses the thread, but allows its end to pass through. After a while the thread, by giving rise to suppuration, is ejected as a foreign body.

Ligatures produce very different effects, according as they are thin and round, or thick, flat, and broad; and according as they are applied, firm, loose, or moderately tight. The study of these phenomena is one of the most interesting in experimental physiology. As far as practical surgery is concerned, the invention of the ligature upon arteries is quite as important as was Harvey's discovery of the circulation of the blood in reference to physiology.

The tying of arteries is chiefly resorted to, as a certain means of suppressing hæmorrhage from wounds, and operations where it is sometimes performed as a preliminary step; in the cure of true and false aneurism; for the purpose of diminishing the flow of blood to a hypertrophied part, in order to check nutrition, as for example putting a ligature on the thyroid artery in the case of bronchocele, and on the internal spermatic artery in case of sarcocele.

There are two principal modes of applying the ligature. One is the insulated tying, in which the artery previously cleared from the surrounding cellular texture, is engirt with the thread. In the other, the artery and adjunct textures are all included in the ligature, which causes a swelling both above and below the noose.

As in the insulated or immediate ligation too violent tying of the noose may divide or cut into the vessel, and thus occasion bleeding; so likewise the mediate may be followed by dangerous nervous seizures, phlebitis, and the like, in consequence of nerves or veins being comprised within the ligature.

I. OF THE INSULATED LIGATURE.

The insulated tying of an artery is accomplished with a waxed thread of twilled silk, half an ell long. A light spring forceps, with moderately broad nibs, is best adapted for taking up the artery. While the assistant presses promptly and firmly a soft moist sponge against the wounded surface, so as to render the vessel conspicuous, the surgeon seizes the latter longwise with the forceps, draws it a little out, and holds it fast, until the assistant places the noose of the ligature round it. The noose having been properly adjusted by means of the fore-fingers, is to be tightened. The forceps are next withdrawn and a knot made.

This is the most easy and natural mode of tying an artery. Should the bleeding be very violent, and the vessel remain concealed in spite of assiduous sponging, the surgeon, with a forceps in each hand, directs his scrutiny to that part of the wound where the blood issues, lays hold of a fold of flesh with one of the forceps, which shall include the artery, raises it a little up, has it dabbed with a sponge, and with the other forceps secures the artery thus brought into view. A ligature is then to be applied, care being had that it involve none of the surrounding textures. Some surgeons think to facilitate the operation by previously placing the knotted thread in a wide noose upon the forceps, then seizing the vessel, and drawing the noose. This, however, only increases the difficulty. The thread gets soaked with blood before it can be tied, and the knot is less firm.

Voluminous arteries when divided as in great amputations, are most conveniently taken hold of by inserting one blade of the forceps within the vessel, while the other remains without. One side being thus secured, the vessel is drawn out, grasped with the second forceps, and then tied.

The tenaculum may be employed as a substitute for the forceps in the instance of hæmorrhage from solid textures, where it would be a difficult matter to insulate the artery with the latter instrument. It is also available in bleeding from deep wounds, as for example after the extirpation of glands from the axilla. Here a portion of the lower part of the wound may be taken up with a thick, sharp hook, the vessel then seized with forceps, and encircled with a ligature.

Every variety of aid is required in case of severe hæmorrhage. Intelligent assistants must hold the lips of the wounds apart with their hands and with blunt hooks, allow a gush of cold water to fall from a sponge over the wounded surface, squirt a full stream of water from a large syringe upon the spot from which the blood is welling forth, exercise pressure over the main trunk of the vessel, and relax it at intervals, until at last all obstacles are surmounted, and the ligation of the artery achieved.

If an artery is merely incised, and the blood jets from an opening in the side, it will be necessary to tie it both above and below the opening. The thread is to be passed underneath the vessel with a hook having an eye at the point. Sometimes, the artery may be completely cut across, in which case both ends should be tied. The ligation of arteries is the best study for young operators, who cannot become too early initiated in all its practical bearings. They thus acquire readiness, coolness, and courage, for the dread of cutting is less than for its consequence—the loss of blood; and he who feels himself thoroughly capable of controlling hæmorrhage, will invariably handle the knife in a steady and collected manner.

Nothing can show better the difficulties which occasionally beset the tying of arteries, than the numberless instruments in the shape of forceps which have been contrived for the purpose. Many of these are highly ingenious. Few, however, are worth noticing, with exception of Graefe's spring-forceps, and Fricke's torsion forceps furnished with a slide. Either may be employed when there is no competent assistant at hand. The artery being se-

cured, the forceps is locked by means of the spring slide, and then given to a bystander to hold, or re tained by the surgeon in his mouth, until the noose is tied round the vessel.

II. OF THE MEDIATE LIGATURE.

This is performed with a fine bent-hafted needle, and a thin waxed thread. The vessel, together with the adjunct parts, is taken up with the needle, held between the thumb and forefinger in a semi-circular manner, or else wholly encircled by a second stitch and then the thread drawn into a noose, upon which a knot is to be made with both forefingers, and the ligature completed with an additional knot. In performing this operation, it is expedient to embrace as little as possible of the fleshy parts in the ligature, for the larger the circle which encompasses the artery, the more likelihood of considerable nervous fibres being included.

This mode of procedure is still one of doubtful propriety, to be undertaken only when the hæmorrhage cannot be otherwise suppressed, or the individual vessels tied separately. In parenchymatous bleeding, and in cases where the folds of texture from which the blood issues are either unusually lax or unusually firm, it is often the sole means of averting mischief. If the patient have already lost much blood, and is much exhausted, this plan ought, indeed, to be resorted to without delay.

After the knot is made, the threads are either shortened, so that they reach very little beyond the wound, or one end is cut close to the knot, and the other to within an inch of the knot, or, lastly, both ends are cut off close to the knot.

When both ends of the ligature are allowed to remain, they increase the amount of extraneous matter in the wound, and thereby impede direct union. The practice is therefore to be repudiated.

The second mode, in which one end is cut off close to the knot, is to preferred in all cases where immediate adhesion is intended.

The third mode, in which one end is cut entirely away, and the other to within an inch of the knot, is most eligible when the wound is large, the ligatures numerous, and the healing to be effected by the process of granulation. When several arteries are tied, the different threads are apt to get entangled about the edges of the wound and create inconvenience. This is best obviated by dressing with picked lint and a few strips of plaster.

The third mode, in which the practice of cutting off both ends of the ligature close to the knot is implied, was extensively employed by Von Walther, and described by Fraenkel (Diss. de laqueis arter.: delig. inserv. Bonn, 1824,) as also in Graefe and Walther's Journ., Vol. XIX. p. 303. It frequently admits of healing by first intention, and of permanent enclosure of the noose within a cyst; but very often after a long period has elapsed, a small abscess forms, and remains open until the remainder of the ligature has come away. Even in wounds repaired by the process of granulation, the noose is liable to be covered over with granulations, and detained by the cicatrice, to escape at some future time, as I have repeatedly witnessed.

The second and third methods seem to me the most eligible. The former in the instance of union by first intention; the latter in that of healing by granulation and cicatrization, because, before the wound is closed, the thread can be removed, by moderate traction, with a forceps.

Ligatures come away as extraneous bodies, after having divided the arterial tunics, in from six to ten days. If some of the adjunct textures are included, the division by the thread is not completed, and the ligature grows in, as is said; in other words, no sundering or suppuration occurs. Where the wound is still open and granulating, the hidden noose may be cut through and withdrawn by pulling forward one end of the thread with forceps, and inserting the points of fine scissors within the granulation. To remove it without cutting would occasion pain and bleeding.

The separation of ligatures from deep wounds, of which the edges are already adherent, takes place as above stated, nearly of its own accord, by gently drawing it along the sinus, so soon as the vessel that had been tied is severed. A small cup-like orifice, surrounded by delicate granulations, indicates, for a brief period, the site occupied by the thread, and healing ensues within a few days. After the long sojourn of thickly-twilled ligatures there remain frequently, even after they have come clean away, obstinate fistulous canals, which may require for their cure treatment by incision, or dilatation with sponge-tents. I have never found it necessary, in order to extract a ligature lying within a wound that is healed up, to introduce a director, divide the canal, and cut out the noose, as has been proposed; but have always succeeded by milder means.

When a long ligature remains stationary, I give it a gentle pull at each dressing, whereby slight inflammatory irritation is produced, which enables it to cut its way out. Should this fail, I pass the thread through a small, round, leathern disc, pierced with a hole in the centre, and noose the end of the thread round a little piece of sponge-tent, which is brought into close contact with the leather; over these a moist compress is placed, which causes the sponge and leather to swell up gradually and thereby exercise a progressive traction upon the ligature. Were a large portion of sponge-tent fastened within the noose, and covered with a wet sponge or a handful of moistened lint, the rapid distension would be followed by violent stretching of the thread, similar in effect to forcibly tearing it away with the fingers. Kluge recommended a rather complex procedure, namely, to lay on both sides of the thread two fragments of sponge-tent of the thickness of the finger, surmounted by two wooden chips attached by means of adhesive strips; over these crosswise a small stick, to the middle of which the ligature is fastened. As soon as the sponges become swollen from the secretion of the wound, or from moisture, they ease out the threads, generally in the course of twenty-four hours. This seldom requires to be repeated.

Early or late secondary hæmorrhage, emanating from section of the vessel, or from arteries left un tied, is to be suppressed by additional ligatures, plugging, and compressive bandages. Purulent deposits, and other casualties, are to be treated on surgical principles.

As concerns ligatures, I have stated above that a fine thin round thread is the most suitable, accord ing to the experience of practical surgeons. I have tied the largest vessels with fine silken threads, and with uniform advantage. Among the various articles which have been proposed at different times for this purpose, may be mentioned cat-gut, caoutchouc, lead and other metallic wires. But, as a general rule, nothing answers better than plain uncoloured silk twist or linen thread, previously rubbed with white wax.

OF TYING ARTERIES IN THEIR CONTINUITY.

In the foregoing section instructions have been given respecting the employment of the ligature for the stoppage of bleeding from divided or wounded arteries. In the present, the subject of tying large vascular trunks in their continuity, for the purpose of effecting their obliteration, and turning the stream of blood into the collateral branches will be discussed.

The operation of applying a ligature to the main trunk of an artery is resorted to in certain chronic diseases of the arterial system, in true aneurism, and in aneurism by anastomosis, also in false aneurism, acute as well as chronic. Further, in violent hæmorrhage, which is not to be suppressed on the wounded surface, even despite of dilatation, either because the main trunk is firmly contracted or punctured higher up. In a morbid condition of the vessels of the skin; and in the instance of arteries injured through compound fractures or gunshot. As a preliminary step in considerable exarticulations, in order to prevent the loss of blood. Lastly, as a means of cutting off an excessive supply of blood to hypertrophied parts, as in bronchocele, enlargement of the testicle, parasitic growths, medullary fungus, and the like.

It is first of all necessary to be fully cognizant of the situation of the vessel about to be tied, and to ascertain the pulsation during alternate tension and relaxation of the muscles, and under slight and strong pressure with the ends of the fingers. The rules given by Lisfranc and Malgaigne for discovering arteries are very useful. The division of the skin, as usually prescribed, is uncertain, because the artery may be readily missed. Wherever I can feel the artery, I place the thumb and forefinger of the left hand wide open, with the points upon the proposed extremities of the incision, and have the skin put on the stretch, from side to side, by an assistant. By this method the artery can never be missed. The cut through the skin must coincide with the longitudinal axis of the vessel beneath; if, however, the pulsation is indistinct and the individual so fat that the tract of the muscles cannot be followed, an oblong slanting incision may be made over the vessel, but not more than that one extremity shall extend to its left, and the other to its right side.

Should an aponeurosis cover the vessel, Malgaigne recommends its section laterally, so as not to injure the latter. This, however, is apt to produce a kind of lateral pouch, which confines the vessel, so that it cannot be well insulated. Puncture of the arteries and nerves is also more likely to happen than when the aponeurosis is merely opened in the line of the cutaneous incision. After the cut is made, prior to tying the artery, it is advisable to put the muscles on the strain, in order to get a better command of the loose space, and find the vessel. It is sometimes proper to draw aside a muscle overlaying the artery with a blunt hook or spatula. The cellular texture is usually detached with the chisel-shaped handle of a scalpel.

The artery can always be discovered by due attention to its anatomical bearings. There are everywhere definite indications. Thus, the subclavian artery lies at the external side of the tuberosity of the first rib; the crural artery in the middle of the thigh below the sartorius muscle, in the upper third to its inner, in the lower to its outer side.

During the operation the patient is to lie extended upon a padded table, with the head moderately elevated; according as the vessel is situate, will the position be prone, supine, or half on the side. A scalpel suitable for puncture as well as cutting, is to be selected. The handle is to be smooth and thin, that it may serve to separate the intermuscular cellular texture. The latter attached to the artery, is to be taken up with forceps in the common way, and slit with the knife, and the fascial sheath of the vessel opened like a hernial sac, with a whitlow-director, then the blunt end of the director passed into the orifice and the sheath divided along the groove. The edges of the skin and any muscles lying in the way are to be drawn asunder with blunt hooks or bent spatulæ, so that a distinct view may be had of the gap. Next follows the application of the ligature.

The operation is naturally divided into three periods. The first is the cutaneous incision; the second the exposure, and the third the tying of the artery.

1st. The incision through the skin is made in such wise, that the knife, held like a pen, is carried with its point perpendicularly through the skin, at the same instant depressed, and its edge made to divide, with one sweep, the skin and subjacent cellular texture. As above stated, the left thumb and forefinger indicate the two terminal points of the incision. It is only by means of a free clean cut penetrating deeply to the vicinity of the vessel, and clearing the lax subcutaneous cellular texture that a smooth simple wound is procurable. If the corium be merely severed, there result from nibbling with forceps, the frequent introduction of the director, and the partial lopping of a number of irregular portions of the surface of the wound, numerous little devious sinuses, and the risk of suppuration. The subsequent slitting of the cellular texture ought always to be made in the exact course of the cutaneous incision upon a director. Having, at length, arrived within range of the vessel, it can be distinctly felt pulsating through the intermediate parts; and also seen pulsating, though obscurely. The wound is now to be cleansed with a sponge wrung out of water, any spurting vessels twisted or tied, and the edges firmly held asunder with hooks.

2. The next step is the insulation of the artery. The surgeon confines his manipulations to a spot of the extent of a half inch in the middle of the artery, raises up little by little with forceps the cellular texture, and cuts the shreds clean away, as in the operation of hernia. The arterial sheath being laid bare at this circumscribed spot, is then opened, either with a pointed director, or by taking up a minute fold with forceps and shaving it off horizontally. An aperture is thus formed in the sheath, through which the artery can be detected. The place where the opening is first made is always the most available, and not to be lost sight of by young operators. If the sheath is hard and yellowish, it may be concluded that the artery is diseased and adherent. Here additional foresight is called for, as it becomes requisite to include the sheath in the ligature, after having previously withdrawn any nerves and veins. Into the aperture of the sheath a director is to be passed up and down, the former freely divided along the groove to the extent of a couple of inches, so as to give plenty of room for further manipulation. The artery is next insulated, that is, detached from nerve and vein, by means of a small blunt hook introduced within the slit sheath. It is afterwards loosened from its bed, so as to allow adequate space for the application of the ligature. The gentle drawing forward of the artery with a blunt hook protects the surgeon against the risk of tying nerves, and other vessels, because they are brought into view. Immoderate denudation of an arterial trunk is prone to be followed by gangrene of the vessels, and death from secondary hæmorrhage. The artery having been duly insulated, the next step is the application of the

3. Ligature. This is effected by conveying an aneurism needle armed with a fine waxed silken thread underneath and around the vessel, which is next unthreaded and withdrawn. A double knot is made, one end of the thread cut off close to the knot, and the long end drawn out of the wound and bound to the skin with an adhesive strip. The lips of the wound, after all bleeding has ceased, are to be carefully united by means of sutures and plaster.

There are some things that may require to be considered, either during or after the operation. Ulcers of the integument and large varicos have occasionally, in the instances of the crural artery, obliged me to make the incision at a distance, and to apply the ligature in a roundabout way. The bleeding during the operation is not in general copious; it is nevertheless sometimes parenchymatous. If divided muscular branches jet, they are to be twisted or tied. Should the thread cut through the artery, and hæmorrhage ensue, an accident which can happen only when the former is violently strained, or the latter in a morbid state, a stronger ligature must be applied with moderate firmness both above and below the breach of continuity.

After the operation, the limb is to be placed so as to relax the muscles. The limb is generally rather colder than natural, and the patient experiences a sense of creeping, and as if the part were asleep or numb. In the course of a few days, when the collateral circulation is fully established, the extremity feels many degrees warmer, the patient finds it often preternaturally cool, sometimes hot, and complains for the most part of burning heat and of nervous twinges resembling electric shocks. Loosely enveloping the limb in flannel or cotton wool is the appropriate covering. The diet and regimen during the early days ought to be mild, nutritious, and cooling, so as to allay the disturbance in the circulation; afterwards more stimulating sustenance may be allowed.

The sutures may be taken out upon the fourth or fifth day, but the strips of plaster left until the wound is healed. After the lapse of seven or eight days, a gentle pull may be given to the ligature and when it is brought away, strips of plaster are to be placed over the orifice. If the wound is united at the base, but discharging pus from the surface, layer of soft lint may be laid under the strips, and the lips somewhat approximated. If, on the other hand, the skin is adherent, and matte collected beneath, the edges of the wound are to be parted, the pus evacuated, and the cavity stuffed with lint; if, again, one portion is healed while another is suppurating, the former is to be shielded with strips of plaster, and the latter filled with soft lint.

Secondary bleeding at an advanced period demands immediate ligation of the vessel at a sound pot above the site of the operation. It would be vain to think of tying the artery at the original place, because the parts are so altered by inflammation and suppuration as to defy all attempts at nsulation.

Frequently the condition of the limbs oscillates, for days and weeks after the operation, between life and death. Sometimes it is of a cadaverous paleness; sometimes there are marks of venous congestion in the skin, denoted by small and large blue dots. Warm aromatic poultices serve to restore the flagging circulation. Should there be no signs of returning vitality, frictions are to be employed, with warm aromatic cataplasms; the limb is to be put in a loping position, arnica and phosphoric acid being administered internally. Despite of all remedial means, sphacelus occasionally follows, and assails either solitary portions of the skin, the fingers, and toes, or extends to the large joints, which assume a leaden hue. Here the stimulant treatment is indispensable. The surgeon meanwhile waits till there is a line of separation between the dead and living textures, and resorts to amputation, provided the patient has sufficient strength for recovery. To have recourse to this extreme measure during the progress of gangrene, is against all modern experience and precept. Gangrene of the wound would betoken the last degree of prostration of the vital powers. It has never come within the scope of my observation.

OF THE THREADS AND NEEDLES USED IN TYING THE MAIN ARTERIES.

The most eminent surgeons concur as to the propriety of employing fine ligatures. The broad ligatures of Paré, Heister, Scarpa, and others, with and without interposed cylinders, have not afforded favourable results. The same may be affirmed of the so-called soluble ligatures composed of skin, catgut, silkworm gut, and the like. They act severally as extraneous bodies, swell up, cause purulent deposits, and counteract or retard the cure.

The application of two ligatures, of which the lower one is secured with a knot, while the upper is left loose, to be tied in the event of hæmorrhage (Cline, Birch,) is detrimental, and obstructs the healing process; should the former determine secondary bleeding, the latter would, in all probability, cause it likewise. The applying two tight ligatures, and cutting through the artery in the interspace, to obviate tension, is a futile and hazardous proceeding. The opposite plan of noosing the artery with threads as a preventive of division or of secondary hæmorrhage, to be removed after a while, instead of lightening renders the sequel of the operation more perilous. The line at which the annular compressure is made is prone to rupture; and, as no regular thrombus can form, after-bleeding or non-obliteration is likely to accrue from the manœuvre.

A great variety of aneurism needles have been invented with the view of lessening the difficulties of operating. There is no more convenient instrument, however, for general use than the common hook-shaped needle with a blunt point, and an eye of moderate size. For deep-seated arteries, Desault's needle, as improved by Langenbeck, (or as modified by Weiss,) may be employed. A spring with a hook projects from the curved part, to which the thread hangs, and enables it to be insinuated round the vessel.

The Public Health during the Last Week —It is highly gratifying to learn that the mortality from cholera in the provinces is steadily diminishing, while in London a most important decrease has occurred.

Microscopic Demonstrations.—The annual course of demonstrations will commence on the 24th inst., in the Theatre of the Royal College of Surgeons, by Mr. Quekett, the conservator of the Museum. Members only have the privilege of attending these valuable demonstrations.

REVIEWS.

Report on the Chemical Pathology of the Malignant Cholera, containing Analyses of Blood, Dejections, &c., of Patients labouring under that Disease in Newcastle and London, &c., &c. By W. B. O'Shaughnessy, M.D., &c., &c. Published by Authority of the Central Board of Health. London: Highley. 1832.

On the Intestinal Discharges in Cholera. By E. A. Parkes, M.D., Assistant-Physician to University College Hospital. "London Journal of Medicine," February, 1849.

On the Pathological Condition of the Blood in Cholera. By A. B. Garrod, M.D., Assistant Physician to University College Hospital. 1849. "London Journal of Medicine," May, 1849.

Dr. O'Shaughnessy's report, published in 1832, was a most important contribution to our knowledge of the changes induced by developed cholera in the composition of the blood; and although more recent observers have not confirmed the accuracy of his experiments in all particulars, yet, in the main, the results obtained have stood the test of the present epidemic. The fact, that the *à priori* indications for treatment which he deduced have been impeached, also *à priori*, by one of the most recent riters on the Chemical Pathology of Cholera, as well as the intrinsic value of the report itself, lead us to bring a pamphlet of so old a date under the notice of our readers.

Dr. O'Shaughnessy's report was published by the authority of the then Board of Health. He takes for his standard of healthy blood Lecanu's Analysis, hen but recently published.

The functions of the saline materials of the blood were at that time, as they still are, but imperfectly understood. Dr. O'Shaughnessy says,—

"The attempt to demonstrate the uses o the saline ingredients of the blood, is a circumstance of very recent occurrence, and almost exclusively attributable to the extraordinary clinical statements of Dr. Stevens, of Santa Cruz, whose experiments have riveted the attention of all the scientific physiologists and practitioners of Europe and America, and the probable importance of which may be estimated from the fact of their having been characterised by Dr. Prout, as apparently unfolding 'the germs of immense benefit to mankind.'"

And he concludes that the absence, or diminished *proportion* of the saline matters of the blood, is connected, in some unknown manner, with the production of various diseased conditions.

The following is a comparative view given by this Author of the chemical composition of the serum of healthy blood, Cholera blood, and blood taken from a person suffering from bilious diarrhœa:—

	Health.	Malignant cholera.	Bilious diarrhœa.
Water ..	906·00	854·00	921·75
Albumen	78·00	133·00	61 85
Sol. salts	8·10	4·00	7·30

Further on, Dr. O'Shaughnessy says—

"The summary of my experiments may, therefore, be described as denoting a great but variable deficiency of water in the blood in four malignant cholera cases—a total absence of carbonate of soda in two—its occurrence in an almost infinitessimally small proportion in one—and a remarkable diminution of the other saline ingredients."

The therapeutic indications deduced from the consideration of the chemical constitution of cholera blood by Dr. O'Shaughnessy were—

First, to restore the blood to its natural specific gravity.

Second, to restore its deficient saline matters.

"With respect to the treatment of the fever stage, I would expect much benefit," he adds, "from the frequently repeated use of the neutral salts by the mouth or by enemata, and dissolved in large quantities of tepid water."

Our readers will remember, that it was this treat-

ment which Dr. Stevens asserts he found practically so useful in treatment of Cholera in the Coldbath-fields prison and elsewhere during the epidemic of 1832.

Dr. Parkes, after detailing the particulars of thirteen analyses of the stools, passed by patients affected with cholera, at different periods of the disease, informs us, that his observations agree with those of O'Shaughnessy, Vogel, Wittstock, Buchanan, and others, made during the previous epidemic. He draws from his analyses the following, among other inferences :—

The fluid passed per anum is derived from the serum of the blood, but is not composed of all its ingredients ; it consists of its water and of its salts, with a very small proportion of its organic elements.

The Cholera fluid, in its purest form, consists of little else than water, salts, and coagulable organic matter, which is probably albumen.

The salts and the albumen do not vary much as to quantity or nature, at the different periods of the disease.

That the total quantity of soluble salts thus drained off from the blood must, in some cases, have been considerable, there can be no doubt, when it is observed that they constituted from 6 to 11 parts in 1000 of each stool examined by Dr. Parkes ; the amount of albumen in three only of nine cases reached the proportion 1 in 1000 parts; the proportion of water varied from 972·82 to 999·053.

When we consider, therefore, the immense quantity of fluid passed from the alimentary canal, and remember that no absorption is going on, according to the most generally received opinion, the conclusion seems inevitable, that there must occur, after a short time, an alteration in the chemical composition of the blood. Knowing, therefore, what the constitution of any given individual's blood was prior to the attack, and the quantity and chemical composition of the ejected and dejected matters, we ought to be able to determine what must be, or nearly so, the chemical constitution of the blood in the same individual after any given period of purging. The results of the experiments of Dr. O'Shaughnessy are in accordance with those we should have supposed *à priori* would have been obtained,—diminution in the amount of water and salts, and a *relative* increase in the amount of albumen. It is evident, that very little albumen being dejected, while a large amount of water and saline ingredients pass off, the former must increase in proportion to the latter, although considered as a whole, its quantity must have diminished.

Dr. Garrod draws the following conclusions from his analysis of the blood in cholera, made during the present epidemic.

The water is diminished, and the solids increased.

The blood globules are increased in amount.

The serum is considerably altered from its healthy condition. Its water is diminished; its solids increased in quantity. It has a tendency to become less alkaline, and even neutral in its re action.

The albumen in 1000 parts of serum is always increased.

The above conclusions are in accordance with those arrived at by previous observers ; but, with respect to the saline elements of the blood, Dr. Garrod arrives at very different results.

"The saline constituents," says the Author, "are not only not decreased in amount, but sometimes exist in even increased proportion."

Lecanu's analysis of the serum is used by Dr. Garrod, as it was by Dr. O'Shaughnessy, as the standard of comparison. We do not doubt the accuracy of Dr. Garrod's analyses, but they appear to us, contrary to what he seems to think, to bear out the therapeutic indications laid down by Dr. O'Shaughnessy in 1832.

The result of Dr. Garrod's analyses may be expressed, it seems to us, more clearly thus—

The absolute amount of saline ingredients in 1000 parts of the serum of cholera blood, is normal ; considered in reference to the water in 1000 parts of serum, the salts exist in a proportion within the limits of health ; but, viewed in reference to the albumen, they are extremely diminished in quantity. The latter remark applies also to the proportion which exists between the red corpuscles of the blood and its salts ; *i.e.*, relatively considered the salts are diminished in amount.

It may appear the same, to say that the albumen and the red corpuscles are increased, and the quantity of the salts is normal, as that the salts are diminished and the blood corpuscles and albumen are normal in quantity. But, therapeutically, the two things are very different, for any attempt to remove the supposed excess of blood corpuscles and albumen, would be to endeavour to substitute true hæmorrhage for the loss the system has sustained by the serous diarrhœa ; while the consequence of adding salines and water, and by that means restoring the relative normal proportion between the blood corpuscles, the albumen, the salts, and the water, would be to bring the patient back *so far as the known chemical constitution* of the blood is concerned, to a state of health.

In order to illustrate our meaning, let us examine one of the cases detailed by Dr. Garrod, viz., that of William Worts, aged 39, a patient admitted into University College Hospital, under the care of Dr. Williams, February 1, 1849. The stools passed by this man were examined by Dr. Parkes, the blood by Dr. Garrod. At the time of admission he was in a state of mild collapse ; he was purged repeatedly during the first hour after he entered the hospital, and then had six stools between 2 p.m. on the 1st, and 2 a.m. on the 2nd, at which time some blood was drawn from his arm.

Three analyses of the stools were made during the time he was under observation. The mean amount of soluble salts found in the stools was 7·46 in 1000 ; of albumen, 2·78 parts only, *i. e.*, the relative proportion between the water and the salts was nearly the same as in the healthy serum of the blood, while the albumen amounted to only 1-27th of that found in the same fluid.

Now the composition of the serum of the blood drawn from the arm of this man was—

Water........	882·9
Albumen	125·40
Soluble Salts..	8·12

So that the amount of albumen in this blood was, when compared with the healthy standard of Lecanu, vastly increased, in fact, nearly doubled, the quantity of the salts in 1000 parts calculated absolutely, was exactly as much as it would have been in the same man in health,—while the water had somewhat diminished. It is evident, then, that the apparent increase in the amount of the albumen was dependent on loss of water and salines ; and, in order to have brought that serum to the condition of health, we must have more than doubled the quantity of water it contained, and exactly have doubled the saline elements.

The blood corpuscles were found to be relatively increased,—they were in the proportion of 166 instead of 141·1 in 1000 parts ; but as extreme practical difficulties exist in determining their precise amount in any given quantity of blood, all that we can correctly say is, that they were considerably increased in quantity. According to the most recent opinions of Physiologists, it is on the blood discs and the albumen that the saline ingredients exert their chief physiological influence, whatever that may be. Now the relative proportions of these elements were changed, and, as a necessary consequence, the action of the saline constituents on the organic elements of the blood must have deviated materially from that which they exert in a state of health. For all practical purposes, then, in spite of Dr. Garrod's—in a *certain sense* correct—statement, that "the saline constituents of the blood are not decreased in cholera," Dr. O'Shaughnessy was right when he stated, that so far as chemical analyses could afford indications for treatment, those indications were, to restore the blood to its natural specific gravity, and to restore its deficient salts. Dr. Stevens asserts, that practically he has proved that the administration of salines did restore to health an immense per centage of those he treated ; and it appears to us that with such theoretical and practical testimony in their favour they deserve a more extended trial than they have yet received. As to the *à priori* reasoning against the employment of salines in the treatment of cholera, founded on the fact, that cases of that disease prove rapidly fatal, where no vomiting or purging, and, consequently, no loss of saline ingredients, has taken place, this answer founded on analogy may be given : in small-pox, death may ensue from the action of the poison before the eruption appears, or it may result from the constitution of the patient being unable to support the immense drain caused by the sudden formation of so much purulent matter on the surface, *i. e.*, the patient may die from the direct action of the poison, or from secondary disease—the consequence—and, if death do not ensue at an early date, the invariable consequence—of the imbibition of the poison into the system. Is it not probable, then, that the same may hold true with respect to cholera ? Thus far we have written, as if *à priori* reasoning was of some value in determining the question of the best method of treating cholera. This, however, is as far from our meaning as it is from the truth. The indications deduced from Chemical Pathology are only of value as suggesting a mode of treatment to be fairly tested by experience. To that all must bow. Would that the therapeutic efforts of Practitioners of Medicine in the present epidemic had been so systematically conducted, that, by an analysis of their experience, trustworthy, indisputable results might have been induced.

REPORTS OF SOCIETIES.

MEDICAL SOCIETY OF LONDON.—Sept. 24.

F. Hird, Esq., President.

LEMON-JUICE IN RHEUMATISM.

Dr. Thompson referred to a discussion which had taken place at the last meeting of the Society, on the use of lemon-juice in cases of rheumatism, stating, that a patient upon whom he had just called had been treated with that remedy ; and he mentioned it, because it bore on the question, whether the action of lemon-juice depended on its possessing qualities similar to other remedies. It had been said, that lemon-juice and acetate of potash acted in the same way, and were, in fact, almost equivalent remedies. Now, in the case he alluded to, it was one of rheumatic pericarditis, leading to effusion into the pericardium. The patient had been treated by a free use of acetate of potash, but this did not prevent severe rheumatic pains, especially about the knees. The heart symptoms were relieved, but the urine deposited immense quantities of lithates. He gave up the potash and employed lemon juice. The patient

having taken in all four lemons, the condition of the urine was materially altered, and the pain of the rheumatism thoroughly subdued; while the change effected in the urine was very different to that produced under the use of acetate of potash. Thus he thought the powers of lemon-juice had been fully established, though the mode in which it acted had not yet been explained.

Mr. Clarke: Does Dr. Thompson mean that rheumatic pericarditis was the original disease, and that acetate of potash was given for that?

Dr. Thompson: There had been pericarditis, but he could not say that there had been rheumatic pericarditis, though he thought there had. The patient under the acetate of potash receives no relief; he changes it for lemon juice, and there is a thorough subsidence of the rheumatic pain and other symptoms.

Dr. Copland: How did the heart disease fare afterwards?

Dr. Thompson: The heart appeared perfectly sound. My opinion is, that inflammation of the pericardium led to effusion of serum, but not to effusion of lymph. The acetate of potash was given after there was reason to think there was effusion into the pericardium. It failed; and, therefore, lemon-juice was employed. The patient was suffering materially from the middle of last week to its end; the lemon-juice was given on the Thursday, and discontinued to-day; the quantity was a table-spoonful every four hours up to Friday, Saturday every six hours, and yesterday twice only. To-day he is free from the use of it.

Dr. Crisp: I am sure Dr. Thompson is too experienced in the fallacy of drawing conclusions from one or two facts, and, therefore, I should think he does not attach much importance to this case. I had the pleasure of hearing Dr. Thompson before on this point, and there it was doubtful whether it was a case of rheumatism at all. But I would especially caution the Society from drawing inferences from isolated facts, and I rise to ask D Thompson whether, if he were called to a case of rheumatism, and he apprehended metastasis to the heart, whether he would trust to lemon-juice alone or whether only he would use it cautiously in cases where there was no danger of heart affection.

Dr. Thompson: Dr. Crisp has really expressed my motive in adducing the case. When I first brought it forward, I referred to several cases, but particularly described one, and my reason was this, —that I feel the great necessity of caution being observed, and of ascertaining the mode of action of lemon juice; and here it appears to me that this case is of value as bearing on the question. I confess, that if the pericardium was affected, I should be afraid at present of trusting to lemon-juice; but I should use it where one is afraid of bad effects from more active remedies.

Mr. Clarke: The view of Dr. Bird was, that lemon-juice increased the specific gravity of the urine, and it was from a great number of cases that he drew this inference, while Dr. Thompson's was only a solitary one.

Dr. Thompson: I did not recollect that Dr. Bird took his views from a great number; I think that number was small; and as it respects the specific gravity of the urine, though I believe the increase in the solid contents of the urine is a common thing, yet here we have exceptions. I have known cases where there has been no increase of the specific gravity. Here, again, we must pause before we form conclusions; a little light has been struck, but the subject is not yet fully illuminated.

The President observed, that Dr. Bird had not tried lemon-juice very extensively.

Mr. Harvey then read a paper on

RHEUMATIC DISEASE OF THE EAR.

His attention was first directed to the subject, by observing the effect of rheumatic inflammation on the tissue of the eye, and from noticing, in many cases of ear disease that came under his care, the presence of articular rheumatism, which, influenced either directly or indirectly, the ear disease, the relief of one, for instance, being followed immediately by aggravation of the other, &c. Believing, from observation, that many such cases were made worse, and even irremediable, by mistaking the cause of the disease, and by the application of stimulating remedies, he determined on investigating the subject. The result has been, that in a great number of cases he has been able to trace the connexion of the ear affection with rheumatism of the system generally. In the eye, the secondary attack has been usually found to come on after the system has been well saturated by the poison of the disease; but the ear may become affected early, the parts first implicated, as in the eye, being the fibrous tissues, and, subsequently, the nervous expansions. The disease exhibited itself under two forms—the acute or destructive, and the chronic or insidious; both, when neglected, tended to impair the sense of hearing; and the former, to the entire destruction of the organ. The acute form generally attacked males, and was connected with articular rheumatism; the chronic was more frequent in females, and was associated with rheumatism of the muscular system. The symptoms of the acute form of the disease, to which the paper was restricted, are, that the attacks are paroxysmal usually following a seizure of articular rheumatism tinnitus aurium, resembling the pumping of a steam engine or forge-bellows, and generally a benumbed sensation over the temporal and mastoid regions. This was the part chiefly implicated in the disease which, if not speedily relieved, ended in the exfoliation of the bone. Some cases were detailed by Mr. Harvey; in one, the patient was a strong robust man, in whom the attack supervened on a severe rheumatic affection of the joint, which had been treated actively. On the entire subsidence of the joint-affection, the left ear became the subject of severe pain, there was a benumbed sensation over the temporal and mastoid processes, accompanied with a heavy deep tinnitus. There was considerable tenderness over that portion of head. The meatus was much swollen, in consequence of the application of hot and stimulating remedies. He had difficulty in swallowing; the l tonsil was much enlarged. He was cupped a leeched over the mastoid process, and placed under the influence of mercury with colchicum. This was pursued for ten days: the tympanum could now be seen: it was of a brownish-red colour, and had l its transparency. The pain had diminished in intensity, but the tinnitus continued: he had occasional flying pains about the joints. Pain and tenderness continued over the mastoid process, and though no fluctuation could be detected, an incision was made over the part down to the bone. Relief followed; he slept better. Colchicum, with quinine, was given, and the patient recovered, though for twelve months his hearing was somewhat affected. The second case was of a similar character, but owing to the obstinacy of the patient, a female, who refused to allow of any incision being made over the mastoid process, th structure of the ear was destroyed, and the bone exfoliated, notwithstanding active and judicious means were used to prevent it. The third case was one associated with cardiac inflammation, which ended fatally; the ear disease, under the treatment pursued in the first case, was but little benefited. In concluding his paper, the Author lays great stress on the necessity of the incision over the seat of pain, and considers, that in the second case, that proceeding, if adopted, would have been as beneficial as in the first. In some remarks on colchicum he says—

It appears to me that colchicum may act chemically by producing some change in the urinary and alvine secretions, both of which it tends to increase in quantity and alter in quality; and, secondly, it acts particularly upon the nervous system. If given in large doses, it should be carefully watched as to its effects. It should not be given in a weakened constitution without either a tonic or an opiate, and it is better to have the bowels freely acted upon at first. I have found it extremely beneficial to continue its use internally for a lengthened period, in small and repeated doses, in chronic affections of the ear presumed to have arisen from rheumatism. I have found it by no means beneficial when it produces nausea, vomiting, or purging, and more particularly beneficial when the skin secretes freely: the preparations I place most reliance upon are the wine of the seeds internally, and the acetous extract, combined with spermaceti, as an external application. He usually adminstered the colchicum wine in small doses, such as five or six drops at first, in chronic cases, continuing the remedy for a long period. He conjoined it with a bitter infusion. In acute cases he gave half a grain of the acetous extract with two grains of calomel, three times a day, till ptyalism was produced.

The President inquired of Mr Harvey, whether he had ever tried lemon-juice?

Mr. Harvey: I have not thought much of lemon-juice; the colchicum, to my view of the matter, in metastatic affections of the ear, has been quite efficacious. I have tried iodide of potassium, but usually relied on colchicum. I never give any heroic dose of the wine of colchicum, thinking it better to carry on the treatment for a considerable time; I therefore confined the dose to five or six grains. In chronic cases I gave mercury, with a view to salivation, and colchicum as a known specific. In twenty-four hours I gave the acetous extract three times.

Dr. Crisp: Are the incisions made deep or superficial?

Mr. Harvey: Deep; through the bone.

Dr. Crisp: I have seen the disorganizations from inflammatory action during scarlatina; and I apprehend that colchicum would be equally efficient after scarlatina. But, as it regards the action of colchicum, I think the Profession has yet the lesson to learn as to the ultimate effect of particular medicines, on the duration of life. It is a subject of great importance; and I make this observation now in consequence of a remark made by Dr. Stokes in Dublin, that "he had never heard of persons who had taken much colchicum living to a great age."

Dr. Copland: Mr. Harvey has fully proved his case as to rheumatic affections of the ear. But I think I could bring a larger number of cases in which the ear was affected contemporaneously with the face and head. One individual I was acquainted with had several attacks of rheumatism on the left side of the face, but never any pain in the ear, until, going down the river one night, violent rheumatism set in in the face and head, and in that case the ear was severely attacked. That case was not treated by colchicum, but principally by iodide of potassium and sarsaparilla. But in two or three chronic cases which have come under my notice, in which there have been repeated attacks of affection of the ear, there has at last supervened very serious deafness, and there the rheumatic affection of the limbs has been more diminished. I have had great experience in colchicum, having given it in small doses, and it has produced in the robust the greatest depression. I consider Mr. Harvey's opinion most judicious, that colchicum should not be given till the morbid secretions had been evacuated, and not then, unless conjoined with ammonia, or, still more judiciously, with quinine. The prolonged use of it is either productive of shortened life or of amentia.

Dr. Thompson: I cannot refrain from referring to the observation of Dr. Crisp as to the great importance of considering the ulterior effects of of medicines. We are in danger of forgetting that an influence for evil may remain. It may often happen, that the doses which will have the best immediate effect are just the doses which we ought not to give; and it is one of the most important arts in medicine to remove disease, with the least possible expenditure of means. Still, I believe that small doses of colchicum are often appropriate and beneficial.

Mr. Hunt: A subject has been broached to-night, which is new to me—whether the administration of particular remedies has a tendency to shorten life. I am not disposed to dispute it, but I should like to hear the evidence on which such an opinion can possibly be founded. The statistical facts necessary to bear it out must be of such a lengthened nature, and spread over so long a period, together with the peculiarities of constitutions, and various other considerations, being so difficult of acquiring a knowledge of, that I think such an opinion must have been hastily formed.

Mr. Roberts: The impression on my mind is against the idea of colchicum generally shortening life. For the last twenty-five years I have given it to patients suffering from gout, and they are now alive; and I have known persons of advanced age who had taken it for a long period. It requires watching, certainly; but in judicious hands, and well watched, I do not believe colchicum will ever diminish life.

OCTOBER 1.

HENRY HANCOCK, Esq., President.

Dr. Willshire: Before the regular business proceeds, I will first refer to the following circumstance. The other day, I called on a gentleman whom I had attended for inflammation of the intestines. He had been the subject of ascarides all his life, and had tried all sorts of remedies, and when anything is prescribed for him professionally, he refuses it. The last time I saw him, he was suffering much from irritation of the rectum, and he was ordered a lotion of nitrate of silver, from which he received benefit; at the same time, the ascarides had not appeared, but he was much alarmed at finding maggots—(exhibited)—making their escape from the abdomen. His chemist had retained these for me, and when I got them, finding they were something out of the way, I told him not to be alarmed, but to reason well on the matter before he made up his mind as to the circumstance. I took the creatures home, and was satisfied that they were not Entozoa, but simply maggots. Professor Owen told me that they were the larvæ of a dipterous insect, in all probability the musca. Dr. Elliotson gives a case in which a child passed the dead larvæ of the fly,—where a high pheasant had been partaken of. In the present case the patient had eat of a partridge, but the servant told me it was not high. I stated to him, that even if there were more, they could not by any possibility propagate; but he was greatly alarmed, thinking that these creatures had made their appearance in the place of the ascarides.

Dr. Crisp: Six or eight weeks ago, Mr. Skegg gave me a number of larvæ supposed to be of the ichneumon, which had escaped from the bowels of a porter. I imagine these are swallowed. They might pass through the alimentary canal, and be buried alive, but generally they are dead. There are other cases of maggots being in the meatus auditorius; but I do not think the larvæ could live in the intestines.

In answer to a question from the President, Dr. Willshire said, he had not traced any connexion between the high partridge and the larvæ. The question Professor Owen put to him was, whether they were passed by the urethra or per anum.

Mr. Hunt read a paper on

A PECULIAR TENDENCY TO HÆMORRHAGE IN CERTAIN INDIVIDUALS, AND ITS PREDISPOSING CAUSES.

The author restricted his observations to those hæmorrhages which appeared to depend more upon the state of the circulation than of the blood; and related cases illustrative of four different conditions of the circulation, which became so many predisposing causes of hæmorrhage; viz., deficient contractility, increased momentum, nervous exhaustion, and local heat.

The object of the paper was practical, and it was the Author's aim to shew, that these various and opposite causes of hæmorrhage ought to be well considered in deciding upon the treatment. In the case of deficient contractility which was observable in some individuals, who would bleed for hours from a slight punctured wound, or even a scratch, and in whom it was dangerous to apply leeches, mechanical pressure, where it could be applied, was recommended as the only remedy to be relied on. In the case of increased momentum of the circulation in connexion with general plethora, in which the hæmorrhage generally stopped spontaneously, after perhaps a frightful loss of blood, it was shown to be highly necessary, especially in cases of pregnancy, (as recommended by the late Dr. Gooch,) to prevent the occurrence of the hæmorrhage by timely depletion and low diet. In the third case, in which, after delivery, or consequent on the shock of severe accidents or operations, the motor power of the nerves becomes paralyzed, and want of contraction occurs, not as an idiosyncratic affection, but as a temporary deficiency, the sudden application of extreme cold, or irrigating the uterus by a stream of cold water, was proposed as the best practice. The same practice, varied according to circumstances, was recommended in the fourth kind of hæmorrhage, viz., that accompanied by local heat. The sensation of distressing heat, not attended with inflammation, was shown by cases to be a not infrequent cause of hæmorrhage from various organs. The author acknowledged himself unable to explain the *rationale* of this occurrence. In one of these cases a woman was attacked, some hours after a natural labour, with a most alarming flooding, and complained of an intolerable sensation of heat in the uterus. Jugs of cold water poured upon the abdomen failed to relieve the sensation, which was at length subdued, and the hæmorrhage arrested by a stream of cold water injected into the uterine cavity.

The President: There is one point which the Author has not noticed in his paper, viz., the symptoms which would lead the practitioner to diagnose between the four cases he has given.

Mr. Hunt: I considered that the symptoms in all the cases were so obvious, that this was not necessary. Whenever hæmorrhage occurs from a trifling cause, we may infer the first condition of things; on the other hand, when we have a full pulse, we may infer fullness of the system, and so on. There is a degree of local heat occurring in some parts giving rise to hæmorrhage, which generally appears to be the result of some exciting causes, after excesses or otherwise.

Dr. Willshire: It appears to me, that a somewhat deeper analysis would have done away with the causes alleged in Mr. Hunt's paper, and led to the attributing of more general ones. I can never assume local heat as a cause of hæmorrhage, though I may take it to be an accompaniment of stasis of the blood. Accompanying that local stasis we have diminished momentum. Here the development of heat is a mere coincidental affection. If increased momentum exist, it can only be in the heart, not in the vessels; the blood does not move quicker in an inflamed part. I think that only two great causes exist, the want of contractility, and the condition of increased action in the central organ; and so we have increased heat, with a peculiar abnormal condition of the coats of the vessels.

Dr. Crisp: I do not agree with Dr. Willshire that there is not increased momentum in an inflamed part; but I rose chiefly to mention an omission of Mr. Hunt's. He said nothing about the condition of the blood, while it is very questionable whether that condition may not be the sole cause of hæmorrhage. Lemonade has been given in hæmorrhages, and it is worthy of attention, whether in typhus fever a large quantity of lemon-juice might not be more efficient than other remedies.

Mr. Clarke: I must differ with Dr. Crisp as to the condition of the blood being the chief cause of hæmorrhage. In the cases I have observed of this remarkable idiosyncrasy, that question was a good deal set at rest in University College Hospital. In a case of Liston's, in which amputation followed amputation, and the young man sunk under the hæmorrhages, the tendency was hereditary; and I should like to know whether Mr. Hunt has noticed cases of this kind.

The President: The subject seems to divide itself into three classes:—1. Hæmorrhage arising from wounds; 2. from parturition; 3. spontaneous, from unbroken surfaces. In scurvy it looks as if hæmorrhage arose from a want of fibrine in the blood, as pointed out by Milne Edwards, in consequence of innutrition, the blood passing through the coats of the vessels. Then Thackeray's observations went to prove that it was the result of increased momentum. I have seen such patients die from small wounds, and also from the accidental circumstance of a vessel being confined in a boney tube; this is very frequently the result of hæmorrhages which take place in tooth drawing, until by a probe you break down the sides. There is one point in which I differ from Dr. Crisp, as to the increased action in an inflamed part. I have found that, as inflammation goes on, the circulation in that part becomes dilated, but the action of the vessels is slower.

Dr. Willshire: We should be cautious in admitting inferences so long as chemistry can give us no better clue to the condition of the blood. Although the fact should hold good as to the probability of peculiar conditions producing hæmorrhage, yet they do not always produce it. In scurvy, hæmorrhage takes place from a want of cohesion in the soft parts surrounding the seat of inflammation, and therefore there is a peculiar condition of that circulating fluid; but it is the want of cohesion which is rather the cause of hæmorrhage.

Some discussion then ensued as to any hereditary tendency to hæmorrhage, and several instances were adduced bearing on the affirmative view of this subject.

Mr. Hunt: As some have considered that my paper was defective, as it regards the condition of the blood, I will just say, in conclusion, that my intention was not to include these cases. The condition of the blood, as a cause of hæmorrhage, is a subject of itself highly important; but my object was, to bring some practical observations before the Society as to the mode of treating hæmorrhages which have four different, tangible characters. As to the sensation of heat, I used the term meaning a sense of caloric, and not as meaning caloric itself, and mentioned it merely as a practical fact, in which hæmorrhage was best stayed by cold applications, these having the greatest power over the capillaries.

LETTER FROM DR. ARNOTT ON THE USE OF BENUMBING COLD.

[To the Editor of the Medical Times.]

SIR,—I beg to express my sense of your justice in printing the reply to the article respecting me in the *Medical Times* of th 8th ult.; and I earnestly hope that you will grant me the further opportunity of defending myself from the extended criticism in the Number for the present week, and of pointing out some very considerable errors in the statements and reasonings which it contains. Being, however, at present, in the enjoyment of a short "physician's holiday," I am not only little indisposed to mingle its sweets with the bitter, but I am unprovided with the documents necessary to be referred to, and must, consequently, beg the indulgence of another week for my reply, trusting that those interested in the point will, until then, suspend their judgment.

At the same time, I am anxious that the valuable antiphlogistic and anodyne remedy which I have recommended should not suffer in reputation by my delay in answering the new objection, that its value has not been confirmed by the testimonials of other practitioners. For this reason, I subjoin an extract from a letter on the subject, received just before I left home, and which I have fortunately brought with me; and, although I do not conceive that I am obliged, for the reasons mentioned in the *Medical Times*, to confirm my own statements by the reports of others, seeing, among other reasons, that every one who doubts my evidence has it in his power to ascertain the truth himself by the simple expedient mentioned in my last communication, I readily grant that any prejudice against the therapeutic agent which I recommend, arising from its having only been hitherto known as a cause of disease, will be more quickly so removed. The letter is from a very eminent physician, acknowledged by every one who has read his lectures on "Clinical Medicine" to be inferior to no authority in the Kingdom on any subject connected with practical medicine. I have not the honour of being personally acquainted with Dr. Graves, and it is with great reluctance that I publish his sentiments without his expressed consent; but I feel convinced that his desire to protect what is really useful in the healing art will induce him to pardon the liberty I take, under the peculiar circumstances which I have mentioned.

"I have twice (he says) advised the use of benumbing cold according to your method, and with such success as to lead me to consider your discovery as one of the greatest practical importance."

This passage refers, of course, to the general use of extreme or benumbing cold. As to its employment in cholera, which is especially, but not exclusively, attacked in the *Medical Times*, I am only at present desirous to add, that its advantage consists in its fulfilling the indications which those who have exhibited ice in cholera have so often failed in fulfilling, from a deficiency in power in the means that they have used. Nevertheless, the ice practice, has, I find, been in high estimation in the city where I am now residing; and some of the late English medical journals show that it is gaining a similar reputation in England.

I am, Sir, your most obedient servant,

JAMES ARNOTT.

Paris, Oct. 7th, 1849.

We publish the above letter, and will find a place for Dr. Arnott's promised communication. For ourselves, we have said our say, and that the more decidedly, from knowing, in the first place, the influence of the name of Arnott; and, in the second, that few men take the trouble to think for them-

selves. As *we* shall not return to the subject, we would observe, that for Dr. Arnott we have the highest respect; nay, more, we have personal regard. His opinions, however, are public property, and, as public Journalists, it is our duty to discuss them.—Ed. *Med. Times.*

MEDICAL NEWS.

Apothecaries' Hall.—Names of gentlemen who passed their Examination in the science and practice of medicine, and received certificates to practise, on Thursday, Oct. 4, 1849:—Joseph Skelding, Bridgnorth; Robert Hamilton, Ipswich; George Paton, Wetherby; John Anderson, London; William Robert Stewart, London; Clement Madely Smith, Horncastle.

Royal College of Surgeons.—The following gentlemen having undergone the necessary examinations for the diploma, were admitted members of the College at the meeting of the Court of Examiners on the 5th inst., being the first meeting this session:—Messrs. George John Hinnell, Tamworth; Henry Merrill Williamson, Chapel-en-le-Frith, Derbyshire; Richard Skinner Henning, East Brent, Somersetshire; John King Maconchy, Dublin; Henry Tregelles Fox, Dunmow, Essex; John Strean Armstrong, Belfast; James Denholm Pridie, Stockton-on-Tees, Durham; John Horsley White, Wolverhampton, Staffordshire; Charles Nathaniel M'Caull, Dublin; William Henry Tinney, Ottery St. Mary, Devon; and William Cowen, Stokestown, county of Roscommon.

Obituary.—At the residence of Mr. Edge, surgeon, Salford, after seven hours' illness, Mr. John Williams, M.R.C.S. and L.A.S., a victim to his assiduous efforts to relieve the cholera patients placed under his charge—On Wednesday, the 3rd instant, at his house, No. 5, Carlton-terrace, Brixton, Surrey, after a very short illness, James Crawford Ferrier, Esq., M.D., in his 41st year—On the 6th instant, at Brighton, John Taylor Warren, Esq., Inspector of Military Hospitals, much esteemed and lamented, aged 78.

MORTALITY TABLE,

(Metropolis.)

For the Week ending Saturday, Oct. 6, 1849.

Causes of Death.	Total	Average of Five Autumns.
All Causes	1290	1162
Specified Causes	1284	1158
Zymotic (or Epidemic, Endemic, and Contagious) Diseases		
Sporadic Diseases:		
Dropsy, Cancer and other Diseases of uncertain or variable seat	44	49
Tubercular Diseases	110	178
Diseases of the brain, Spinal Marrow, Nerves, and Senses	101	125
Diseases of the Heart and Blood vessels	23	40
Diseases of the Lungs, and of the other Organs of Respiration	123	214
Diseases of the Stomach, Liver, and other Organs of Digestion	76	65
Diseases of the Kidneys, &c.	9	11
Childbirth, Diseases of the Uterus, &c.	6	10
Rheumatism, Diseases of the Bones, Joints, &c.	12	8
Diseases of the Skin, Cellular Tissue, &c.	3	1
Malformations	5	4
Premature Birth and Debility	24	23
Atrophy	37	18
Age	48	57
Sudden	5	12
Violence, Privation, Cold, and Intemperance	22	36
Causes not Specified	6	4

The following is the number of Deaths occurring from some of the more important special causes:—

Apoplexy	20	Heart	18	Phthisis	92
Bronchitis ...	37	Hooping cough	27	Pneumonia ...	71
Cholera.........	288	Hydrocephalus	20	Scarlatina	39
Childbirth	3	Influenza	2	Small-pox	8
Convulsions...	38	Liver	14	Stomach	10
Diarrhœa	135	Lungs	4	Teething	15
Dropsy	9	Measles	14	Typhus	53
Erysipelas ...	14	Paralysis	15	Uterus	3

BIRTHS AND DEATHS.

	Births.	Deaths.	Deaths over Births.
Males	631	622	— 9
Females	551	668	117
Total......	1182	1290	108

METEOROLOGY OF THE WEEK.

	Mean of Barometer.	Mean of Thermometer. Dry.	Ditto. Dew Point.	Difference between the Mean Temperature of the day and the same day on an average of 7 years.	General Direction of Wind. A.M.	General Direction of Wind. P.M.	Amount of Horizontal Movement of the Air. Miles.	Rain in Inches.	*
Sunday	29·070	57·7	52·8	+ 4·6	S. & S.S.W.	S.W.	190	0·58	No hing shown.
Monday	29·374	52·6	50·8	— 1·0	N.E.	N.N.E.	25	0·08	P.&ten. strong between noon and 9 p m.
Tuesday......	29·552	49·3	43·7	— 5·4	N.N.E.	N.N.E.	5	0·02	P. and tension strong.
Wednesday.	29·254	52·5	50·3	— 1·1	S.E.	S W.	145	0·55	P. & tension strong between 9 a.m. & noon.
Thursday ...	29·097	51·0	48·7	— 2·3	W.S.W.	N.W.	90	0·73	P.& ten strong between noon & 3 p.m., & weak at other examinations
Friday	29·618	50·0	39·1	— 2·5	W.S.W.	S.W. & S.S.W.	35	0·02	& tension weak between 9 a.m. ...oon.
Saturday ...	29·621	46·6	40·5	— 5·1	S.W. & W.	N.E.	49	0·20	P.&ten.strong ...rally
Means ...	29·374	51·2	46·6	— 1·5			SUM 490	SUM 2·20	

* In this Column, A. stands for Active; N. for Negative; and P. fo[r]

TO CORRESPONDENTS.

Cholera Table Returns."—We have received several of our Cholera-tables; and have to offer our acknowledgments to the gentlemen who have so ably filled them up. We are particularly obliged, in this respect, to Dr. Corfe, of the Middlesex Hospital, to Dr. Aldis, and his pupil, Mr. Vincent Litchfield, of Twickenham, to Dr. Hooper, of Buntingford; Dr. Jones, of Anglesea; Dr. Cheyne, of Berner's-street; Dr. Harcourt, of Chertsey, and others. Some of these reports are so full of matter of deep interest, that we would gladly have published them as we received them, but, upon consideration, it seems more advisable to adhere to our first intention, to analyze the returns as a whole, and lay them before the Profession. Upon this subject, we further beg to state, that Dr. Hilbers, of Liverpool, will, we think, serve the interests of the cause he advocates more effectually by inserting his communication in a Journal devoted to the promulgation of the peculiar views he holds. He misunderstood us, if he supposes that we promised to publish all the Tables we might have returned to our office. What we intend is, after we have collected a sufficient number of cases, treated by different practitioners in different ways, to analyze them, and then to give the results, and such of the particulars as we may think interesting to our readers. We believe the notes of the cases, forwarded by Dr. Hilbers, bear internal evidence of their authenticity and accuracy, and for this reason, that we find, on a careful perusal of them, that little more than 50 per cent. of the cases detailed (*i.e.*, of those among them which *we* should consider cholera) recovered, and such per centage we believe to be about that which even when the disease is severe, the uninterrupted efforts of nature may effect, and certainly far below the success which some advocates of the unadulterated cold-water system assert they have obtained. In support of our statement we may refer to Mr. Ross' Fifth Lecture on Cholera, published in the "Medical Times" of November, 1848. We really hope Dr. Hilbers will publish the *whole* of his cases, in one of the homœopathic journals, in our tabular form, which he has so carefully filled up. We shall be happy to supply him with any number of copies. We think the results deeply interesting, as presenting a natural history of the progress of the disease to recovery or death. Our only objection to publishing the papers *originally* in our Journal is that we should be bound to admit criticisms, &c., on them, and thus our pages would be occupied by an homœopathic controversy, when, in our opinion, they might be more profitably employed. Dr. Hilbers is correct in attributing our delay in noticing his communication to other causes than want of courtesy.

"Dr. Henry McCormac, of Belfast," has, with his valuable Works on "Continued Fever," and the "Modus Medendi," sent us a very useful little pamphlet on the "Management of Cholera in the absence of Medical Advice." The proceeds of its sale are destined for charitable purposes; it is published at a very cheap rate, and we earnestly recommend it to the attention of the charitable for circulation among the poor. "I have been often asked," says Dr. McCormac, "what is to be done in the absence of medical advice, and in case of an attack of cholera?" The following directions are intended as a reply. The position of a person, in the early stage of cholera, resembles that of a wounded man labouring under severe, and, unless arrested, mortal hæmorrhage. The importance of stopping the discharge, and relieving the sufferer, is hardly greater in the one case than in the other. The first and most important requisite, and the second, and the third, is at once to put an end to the discharge. With this there is safety, and more safety, and most safety—and, without it, there is none."

"Dr. Gondret, of Paris."—Both received.

Mr. J. Grantham's Communication has been received.

"Dr. J. W. Boyd, New Ross, Ireland," is thanked for his suggestion, which shall be attended to.

"Medicus, Gainsboro'," asks whether legal proceedings can be instituted against a quack for practising without a diploma, independent of any sanction from, or connexion with, the Apothecaries' Company. Yes.

"Mr. G. C. Kernot, Poplar."—The work will be brought to a close in the present volume.

"Dr. Williamson, Brighton."—A private communication has been sent.

"A Constant Reader and Subscriber" writes, "In last Saturday's 'Medical Times,' in answer to 'Medico-Chirurgus,' you state the sums paid to medical men when called upon by the police to attend persons at the station-house. Does the rate of payment belong to London alone, or to all places indiscriminately? Is the medical man allowed to charge if he is Surgeon to the Union in which the station-house is situated." The rate of payment is not confined to the Metropolis, nor does it affect the validity of the claim by a medical man holding a parochial appointment.

D. Z., Iron Works."—The appointment of Assistant Surgeons of the East India Service is in the patronage of the Directors. A form of certificate, printed for the purpose of the blanks being properly filled up and signed previously to the Assistant-Surgeon being nominated, can be obtained by application at the Cadet Office, East India House. Assistant Surgeons, with these Certificates duly signed by the person who obtained their nomination from a Director, must present themselves, before ten o'clock in the morning, in order that they may have their nominations prepared against either the meeting of the Committee, or the arrival of the Nominating Director.

"Juvenis" wishes to know "whether a surgical diploma is indispensable for candidates for the situation of Assistant-Surgeon in the navy, or of a degree of medicine would be a sufficient qualification for that office." No person will be admitted who cannot produce a certificate or diploma from either of the Royal Colleges of Surgeons of London, Edinburgh, or Dublin. A favourable consideration is given to the cases of those who have obtained the degree of M.D. We would advise our Correspondent not to think of entering the navy at present. The Assistants are still subjected to numerous insults, and it is only by persevering efforts on the part of the Profession that grievances will be removed. Resignations are frequently occurring, and there are at present very few candidates to fill up the vacant places.

"Dr. Bascome's" letter shall appear at an early opportunity.

"Mr. W. Foss, Stockton-on-Tees" informs us, that in a case of cholera which he attended, and in which the patient had cramps, involuntary rice-water evacuations, attended with great prostration, he ordered the extremities to be rubbed with warm flannels, a mustard plaster to be applied to the abdomen, and the following mixture to be taken:—℞ Ant. potass tart., ℈ij; tinct. camph. comp. ʒi.; sp camph., ʒi; aq bullientis ad., ℥viij.; a table spoonful every ten minutes. After the second dose, the patient had profuse perspiration, cramps and purging left her, and health was quickly restored. The antimony did not produce vomiting, but acted as a sedative. In the case of a child, three years old, under the saline treatment, a blue and collapsed state speedily supervened. Tartarized antimony, with the tinct. camph. comp., was then prescribed, which was followed, after the second dose, by a profuse perspiration and calm sleep. This patient afterwards quickly recovered.

"Dr. Richard Sargent, Clonmel."—Received, with thanks.

"A Subscriber" says:—"Not a very long time ago there appeared in the pages of the 'Medical Times,' a form or a history of a bread, well calculated for diabetic patients. I have not time or opportunity just now to look back to the article: can you, or will any of your numerous correspondents, give me the information, accompanied with any pertinent remarks on the diet that has been found most useful for this class of cases?"

"Dr. Hastings."—We had intended to publish a communication by Dr. Hastings on the treatment of Cholera by the bisulphuret of Carbon. A press of matter obliges us, at the eleventh hour, to postpone its appearance until next week.

A CLINICAL LECTURE

ON

CHOLERA.

DELIVERED AT KING'S COLLEGE HOSPITAL, OCTOBER 12, 1849.

By Dr. GEO. BUDD, F.R.S.,

Professor of Medicine King's College, and Physician King's College Hospital.

Reported by DUNCAN FERGUSON, Esq., late House Physician King's College Hospital.

I come here to-day to commence the usual winter's course of Clinical Lectures under circumstances of peculiar interest. During the vacation, cholera has raged like a pestilence in the town, and the doors of this hospital have been freely opened to receive its victims. As the object of these Clinical Lectures is to direct your attention to what is most interesting or instructive in the wards of the hospital, you might well expect that I should take the first opportunity to speak of the terrible disease to which, for some time past, we have been devoting most of our time and thought, and which has turned our attention aside from other diseases.

The first case of cholera was brought into the hospital on the 5th of July; and the last, of which I have any record, on the 3rd of October.

During this interval of three calendar months, from the 4th of July to the 4th of October, which embraces very nearly the time during which cholera has prevailed extensively in London, there were brought into this hospital 113 persons ill of cholera. Of these, 41 died, or rather more than 1 in 3.

This rate of mortality, terrible as it is, has been much exceeded under similar conditions at other times. In 1837, while I was physician to the Seamen's Hospital, Dreadnought, cholera broke out there, and in the space of three weeks, 20 persons were attacked, of whom 12 died, in spite of the most prompt and diligent attendance.

This led me to examine the records of the Seamen's Hospital during the former visitation of cholera, in 1832, which were most carefully kept; and I found that in the Dover, a vessel fitted up at that time as a cholera hospital for seamen in the port of London, out of 160 patients, most of them robust men, well nourished, and in the prime of life 95, or more than 4 in 7, died.

The rate of mortality in our own Hospital, during the present epidemic, has not been uniform. It was much higher at the commencement of the epidemic than in its middle and towards its close.

In the first month, that is, from the 4th of July to the 4th of August, 22 patients were admitted with cholera, and of these 14, or very nearly two-thirds, died.

In the second month, from the 4th of August to the 4th of September, 55 were admitted, of whom 20, that is, 1 out of 11, or rather more than 1 in 3, died.

In the third month, from the 3rd of September to the 4th of October, 36 were admitted, of whom 7 only died, or less than 1 in 5. Or, reducing these different proportions to a common scale by the rules of arithmetic, it appears that the rates of mortality in the three consecutive months, were as 35, 23, and 11 respectively.

Now, you must not suppose that the gradually diminishing mortality, as time wore on, resulted entirely, or even mainly, from our having acquired greater skill in treating the disease. We cannot comfort ourselves with any such flattering belief.

In former epidemics, the rate of mortality has generally been highest at the onset, and has grown less in the same way as the epidemic declined, without our being able to ascribe the lessening mortality to greater skill in the treatment of the disease.

In 1832, the first cases of Cholera occurred in the spring, and the disease did not disappear from the metropolis till the January following. Its greater mildness, as the epidemic approached its termination, is shown by the records of the Dover, to which I just now referred. Of 137 cases admitted from the 20th of May to the end of September, 76, or more than 5 in 8, proved fatal; while of 21 patients admitted in the last three months of the year, when the epidemic was coming to a close, 15 recovered.

It seems, indeed, to be a law, to which there are very few exceptions, that in epidemics of cholera the rate of mortality is highest at the commencement, and becomes greatly less as the termination of the epidemic draws near.

Again, the rate of mortality among our hospital patients has varied considerably with age. The average rate of mortality, taking all ages together, was, as we have seen, 41 in 113, or rather more than 1 in 3. Now, out of the 113 patients, there were 37 of the age of 40, or upwards; and of these 18 died and 19 recovered; the rate of mortality was 1 in 2 very nearly. If we deduct these 37 cases, there remain 76, in persons under 40, of whom 23, or less than 1 in 3, proved fatal.

So that, while the rate of mortality in persons of 40 and upwards was very nearly 1 in 2, in persons under 40 it was less than 1 in 3.

Now this greater rate of mortality in persons past the meridian of life is not peculiar to our recent experience. It is a general fact, and was exemplified still more strikingly in the Dover in 1832. I have already stated that the rate of mortality in the Dover, taking all ages together, was rather more than 1 in 7. Now, of the 160 patients treated there, there were 22 who were 50 years of age, or upwards, and of these only 2 recovered; the age of each of these two was 55; of 13 who were above 55 years of age, not one recovered.

Persons who have passed the meridian of life, not only die in greater proportion than others when attacked, but are also more prone to have the disease. Of the 113 patients treated in this Hospital in the last three months, 39 were from 20 to 40 years of age, and 31 from 40 to 60. The number of patients from 40 to 60 years of age was, therefore, not very far short of the number from 20 to 40. Now, it must be plain, that, among the poor of London, the persons between 20 and 40 greatly outnumber those between 40 and 60; so that these figures lead to the conclusion, that persons from 40 to 60 are more prone to take the disease than persons between 20 and 40.

The greater liability of persons in advanced life to take the disease was shown more clearly still by the records of the Dover in 1832. The cases admitted into the Dover, all occurred in sailors, persons similarly circumstanced, and leading the same kind of life, who were admitted without any restriction, and are therefore well adapted to show the influence of age, within certain limits, on the liability to cholera. Of the 160 patients received into the Dover, more than one-third were 40 and upwards. By an existing regulation, the ages of all sailors who enter the port of London are registered. In 1833, I obtained permission from the authorities of the Custom House to examine these registers, and found, that out of [illegible] taken consecutively, considerably less than 1 in 5 had arrived at the age of 40. The predisposing influence of advanced [illegible]

ages still greater. [illegible] of the sailors [illegible] hospital with cholera, more than 1 [illegible] [illegible] of 50 or upwards; whereas [illegible] at the Custom house, less than 1 in [illegible] [illegible]; so that the number of sailors struck down with cholera was more than [illegible] it would have been were all ages equally liable to the disease.

I have been more particular in stating these points, because the lessening rate of mortality, as the epidemic wore on, and the higher rate of mortality in persons past the meridian of life, and the undue proportion of such persons struck down, are not peculiar to our own personal experience, but are examples of general facts which, from their being general facts, are of deep significance in the pathology of the disease; and which must be borne in mind and considered before we can form any just estimate of the relative efficacy of different plans of treatment.

The fact, that persons past the meridian of life are struck down by cholera in higher proportion than others seems to merge in a fact more general still.

It has been clearly shown by the returns of mortality from the different divisions of the Indian army, that hard service and long marching greatly increases the disposition to take the disease.

When two regiments come together to a new encampment, that regiment which has been most exhausted by hard marching almost invariably suffers the most. Dr. Lorimer, in a report on Cholera as it appeared among the native troops of the Madras army, on the line of march from one station to another, from 1820 to 1814, showed that the number of men struck down by Cholera, other circumstances alike, increased with the length and duration of their march.

Now, in the record of the cases brought into the hospital in the early part of the epidemic, for which I am indebted to Mr. Duncan Ferguson, there occur many such brief notes as these, in the history of the different patients—"Is of disorderly habits," "has been very intemperate," "has been half-starved."

Many instances are repeated from month to month, in which great dread of the disease, or some other depressing emotion, is generally supposed to have brought on the attack.

We have no collected facts which enable us to estimate the degree of influence which the several conditions to which I have just referred have in increasing the liability to Cholera; but there can be little doubt that their united influence is great.

It would appear, then, that advancing age, great bodily fatigue, depressing emotions, intemperate habits, and other circumstances that diminish the vital energy, increase the disposition to take the disease. Whence we must infer that the young, and the strong, and the bold, and the sober, although the mortality among them, too, is great, are often exposed to the poison without suffering from it. They must have a power within themselves that in some degree resists or controls its action.

I am happy to tell you, that none of the medical officers of the hospital have had the disease in any degree; and that not one of the many students who have given devoted attention to the cholera patients, have suffered in consequence, more than by occasional slight diarrhœa. Several circumstances followed, however, in the hospital early in the epidemic, which tended strongly to convince us that the disease is, in some way or other, infectious.

In the month of June, when cholera was threatening to become epidemic, the Committee of Management fitted up two unoccupied rooms for the reception of cholera patients in the building contiguous to the hospital, which they had just purchased: and, at first, all the persons ill of cholera brought to the hospital were placed in those rooms. In the course of a week or two, two of the nurses employed there took cholera and died of it; and a woman who nursed her child, ill of cholera in one of the rooms, also took it, but recovered.

On account of these events, the rooms in question were emptied and shut up; and the cholera patients were transferred to wards in the hospital on the west side of the building. There are, as you know, two wards or rooms on that side of the building on each floor, which are at right angles, like two contiguous sides of a square, and which [illegible] angle, by a short open passage in which [illegible] water-closet, which is common to both.

The men were placed on the floor usually occupied by [illegible] patients, in one of the wards; [illegible] at right angles to it, and communicating with [illegible] by the short open passage, and having the common water-closet, being still occupied by surgical patients.

The women were placed on the floor above, in a corresponding ward; the ward opening into this at right angles being there left empty, for the purpose of being cleaned. Soon after the cholera patients were thus transferred to the wards of the hospital, two of the surgical patients in the ward opening into that in which the men ill of cholera were placed, took cholera and died of it. Five persons brought into direct communication with the cholera patients had then been attacked with cholera in the hospital, and not a single patient had taken it in

any other ward, nor a single nurse or other person engaged in other parts of the house.

It was almost impossible to resist the conviction that the cholera patients brought to the hospital had been the instruments for infecting, in some way or other, these five persons.

In consequence of these occurrences the persons ill of cholera in the Hospital were shifted again, and were now placed in wards on the east side of the building, which do not communicate directly with any others, and which are separated from those on the west side by the passage which runs, from north to south, through the whole length of the building. This second transfer took place on the 10th of August.

Before this happened, some other circumstances had occurred, within our own observation, evincing great concentration of the poison in particular places.

On the 19th and 20th of July, 5 persons ill of cholera were brought to the Hospital, 3 on the first of these days, and 2 on the second; all of the same family, and from the same house, No. 3, Bolton-street, Kennington.

On the 26th of July, a woman, 52 years of age, was brought from a house in Yate's-court; and, on the 28th, a man, 72, (her husband,) was brought from the same house.

On the 4th of August 2 children, brother and sister, were brought from No. 11, Birch-lane; and on the following day 2 other children, of the same family, were likewise brought,—all ill of cholera.

On the 7th of August a man, aged 40, was brought from 14, Endell-street; and on the 8th, another person, one of his children, from the house.

By this time, also, public attention had been directed to the fact, that cholera was especially rife in Bridge-street, Blackfriars, along the course of the Fleet-ditch, and along the line of other sewers, especially near their termination in the Thames; and generally in the low and ill-drained quarters of the town.

These circumstances—the occurrence of five cases of cholera in the hospital among the comparatively few persons brought into direct communication with the cholera patients, while all other persons in the hospital escaped;—the instances I have mentioned, where several persons were brought from the same house, showing great concentration of the poison in particular places;—and the notorious fact, that cholera was especially rife in the low and ill-drained quarters of the town, and in the line of the sewers in the low parts of the town, where their contents are apt to stagnate—these circumstances led me to suspect, that the discharges from the cholera patients might, in some way or other, be instrumental in communicating the disease; and, in consequence, I now ordered, that a solution of chloride of zinc should be placed in the night-stools of the cholera-patients, and that it should be liberally poured, night and morning, into the water-closets, through which the discharges passed. The first part of my request was, I believe, neglected after a few days; the second part has been strictly complied with. The request was granted the more readily from its entailing very little cost.

Since the second transfer of the cholera patients took place, no fresh case of cholera has occurred in the hospital, although more than twice as many cholera patients have been taken into the hospital since as had been taken before. Before the transfer, to which I allude, had taken place, thirty-six patients ill of cholera had been admitted, and seventy-seven have been admitted since.

I have now mentioned the most striking general circumstances that have occurred within our recent experience at the Hospital. I shall not enter into any detail of individual cases. From the want of a sufficient number of clinical clerks, and from our being all so much occupied in ministering to the sick, the notes taken of any of the cases are very scanty and imperfect. I shall, therefore, content myself with making a few general remarks on the course of the disease, and on the morbid changes that are commonly found in the body after death.

(After giving a sketch of the course of cholera, and its various results, Dr. Budd proceeded).

I have now given you an account of the symptoms of cholera. We may next consider which of these are primary and fundamental.

It seems to me to be clear, that the rapid and profuse drain from the intestinal canal, and the state of blood which this induces, is the cause of all the other striking symptoms of the stage of collapse: of the coldness and blueness of the surface, of the shrinking of the body, of the cramps, of the suppression of urine, of the sense of oppression at the chest, and of the hoarse and whispering voice.

This appears to me to be proved by the remarkable experiment often made in this country in 1832, of injecting into the veins, during the stage of collapse, a large quantity of water, in which had been dissolved some of the salts contained in blood. In the Drummond-street Hospital, in Edinburgh, 156 patients were treated in this way: ℥ss. of muriate of soda, and ℈iv. of sesqui-carbonate of soda were dissolved in ten pints of water, at a temperature varying from 106° to 120° Fahr.; and this was injected slowly into the veins during the stage of collapse; half an hour being spent in the gradual injection of about ten pints.

I will read to you, from an article on Cholera, in the Library of Medicine, written by myself about ten years ago, an abridgement of the account of these experiments that was published by Dr. Mackintosh, who was Physician of the Hospital at the time, and under whose superintendence and direction the experiments were performed.

"After the injection of a few ounces, the pulse, which had ceased to be felt at the wrist, becomes perceptible, the heat of the body returns. By the time three or four pints have been injected, the pulse has become good, cramps have ceased, the body, that could not be heated, has become warm, and, instead of a cold exudation on the surface, there is a genial moisture; the voice, before hoarse and almost extinct, is now natural; the hollowness of the eye, the shrunken state of the features, the leaden hue of the face and the body, have disappeared, and the expression has become animated, the mind cheerful; restlessness and uneasy feelings have vanished; vertigo, noise in the ears, and sense of oppression at the præcordia, have given way to comfortable feelings; thirst, however urgent before the operation, has ceased. The secretion of urine was soon restored; but in this we were more frequently disappointed than in any of the other favourable symptoms. But these promising appearances were not lasting; the discharges continued, and became even more profuse; the patient soon relapsed into his former state, from which he might again be roused by the repetition of the injection; but the amendment was transient, and the fatal period not long deferred."

These remarkable experiments, which, as I have stated, were many times repeated, show that the feebleness of the pulse, the coldness and blueness of the surface, the cramps, the whispering voice, the vertigo, noise in the ears and sense of oppression of the chest; the thirst—all the most striking symptoms of the state of collapse, are owing to the loss of the water of the blood. There can be no doubt, also, that the suppression of urine results mainly from the profuse drain through the bowels, and the thickened state ot the blood which this induces

It would seem, therefore, that the primary and fundamental symptom of cholera, on which all the others are dependent, before reaction takes place, is the rapid and profuse drain through the intestinal canal. Cases are stated now and then to occur which appear to contradict this doctrine; cases sufficiently marked as cholera by cramps, and by coldness and blueness of the surface, and by the circumstances under which they occur, which prove fatal very rapidly, before any discharges have taken place. It has been inferred from such cases that cholera is produced by a virus, which is capable of causing rapid death by its direct action on the nervous system, without producing intestinal discharges.

Now, such cases are extremely rare. I have never met with a single instance of the kind among several hundred cases that have fallen under my own observation; and in this respect my own experience accords with that of several others who have had large experience during the late epidemic, whom I have questioned on the subject.

I do not, however, deny the occasional occurrence of such cases. I believe that such cases do occur; but that death is occasioned in them, as in others, by a rapid drain into the intestinal canal, which kills by the change it induces in the blood, and by the shock it gives to the system, before any discharges from the stomach and bowels have taken place: that, in fact, the stomach and intestines are full of the "rice-water," though none has passed away.

It seems to me, therefore, in spite of the occasional occurrence of such cases, that the profuse and rapid drain through the intestinal canal is the fundamental and primary symptom of cholera; and that it is the cause of the other symptoms of the stage of collapse.

One of the chief causes of the secondary fever is probably the suspended action of the kidney. In almost all cases where the collapse has been deep and prolonged, the urine passed for a day or two after re-action has taken place is scanty, and contains albumen. In cases that turn out well, the urine soon becomes more abundant, and the albumen disappears. In others, this favourable change does not take place. In a man, who was in the hospital under my care in the early part of the epidemic, re-action took place, the secondary fever came on, but the secretion of urine was not restored, and death occurred four days afterwards, evidently from the long suspended action of the kidney.

There are two other circumstances which may also have a share in causing the secondary fever. These are, the unnatural state of the blood, produced by the intestinal discharges, and the absorption of noxious matter from the intestinal canal, which may take place when the discharges cease, and absorption at the surface begins again.

Now, the defective action of the kidney, after reaction has taken place, is owing, most probably, to mechanical conditions; to the obstruction of the capillaries of the kidney by the previously thickened blood; and to the still existing deficiency of water in the blood.

It appears then still, after considering the whole course of cholera, that the rapid and profuse drain from the intestinal canal is the primary and fundamental symptom of the disease; that the poison, whatever it be, that causes the disease, has an exclusive action, or almost an exclusive action, on this part.

I will now briefly call your attention to the morbid changes found in the dead body.

Where death occurred during collapse, the body is of course shrunk, and the lips, and ears, and extremities have a blue or leaden hue, as during life. The body and limbs are very rigid from strong contraction of the muscles after death.

The chief marks of disease are found, as might have been expected, in the intestinal canal; and are most of them well preserved in the beautiful series of preparations on the table,—for which I am indebted to my friend, Mr. Busk.

The stomach and small intestines are, externally, of a pale rose-colour, from unusual accumulation of blood in their vessels.

The mucous membrane of the stomach and intestines throughout is generally more or less coated with the pasty substance of which the flakes in the discharges consist; and when this is wiped away, that of the stomach and small intestines appears thickened, and the villi are enlarged: appearances owing to their being charged with the fluid of which the intestinal discharges consist. By drawing the coats of the intestine between the finger and thumb, and using some pressure, a white, opaque fluid is squeezed out, and the membrane regains its natural thickness and appearance. It seldom presents the appearances usually considered indicative of the process of inflammation. But the most striking change discovered in the intestinal canal in this stage of the disease, is the broken state of the glands,

or follicles, of the mucous membrane. The glands of Brumner, the glands of Peyer, the solitary glands of the small and of the large intestine, are all swollen and much more conspicuous than natural.

In the lower part of the ileum the solitary glands look like small round heads projecting from the surface of the membrane.

All this is well shown in the preparations before you.

The mesenteric glands, also, are generally somewhat enlarged.

The gall-bladder is generally found distended with dark green, or olive-coloured bile; which is the more worthy of remark from the complete absence of bile in the intestinal discharges.

No morbid appearances are found in any other organ, except such as are fairly attributable to the changed colour and consistence of the blood.

In persons who die soon after re-action has been established, or after a protracted cold stage, the intestinal canal is found less congested, the mucous membrane is less swollen, and the glands or follicles are less conspicuous. In some cases small portions of the mucous membrane are found of a dark red colour from ecchymosis, and occasionally the membrane at those spots is found in a state of gangrene. These appearances are observed chiefly where the cold stage has been unusually protracted, and the intestinal discharges during life have contained blood. They are well preserved in three of the preparations before you.

In persons who die during the secondary fever, appearances like those produced by pneumonia are frequently found in one lung, or in both lungs, especially in the lower lobe.

No other organ presents any constant or characteristic changes, except such as are attributable to the physical characters of the blood.

The appearances observed after death, as well as the symptoms, show, then, that the poison of cholera, whatever it be, exerts its chief action on the intestinal canal.

I have now stated to you the substance of what we have observed here of the symptoms and morbid anatomy of cholera.

You are all aware, that public attention has been lately directed to the discovery made at Bristol, by Mr. Brittan and Mr. Swayne, of the almost constant existence of peculiar microscopic objects in "rice-water" discharges of cholera. These objects were first seen in July last, and objects like them have since been found in the air and in the water of infected districts.

Before you are some drawings of these objects; and you may presently have an opportunity of seeing some of the objects themselves through the microscope on the table.

I am myself far too ignorant of the microscopic appearances of low vegetable organisms to venture to express an opinion as to their nature. Further than that, they seem to me to be different from the ordinary products of a diseased mucous membrane.

Some of the objects found in the intestinal discharges, and some of those obtained by Mr. Brittan from the air, have been carefully examined by Mr. Quekett, of the College of Surgeons, who, (a great authority in such matters,) in a letter published in the *Medical Gazette*, has expressed his belief in their identity, also his belief that they are of a fungoid nature. Some other persons, practised in microscopic researches, have expressed, I believe, the same opinion.

The discovery of these objects has revived, in more definite shape, a theory that was much discussed after the last epidemic of cholera in this country; namely, that the disease is the effect of some extremely minute organism, vegetable or animal, which finds its way into the human body, and there germinates or breeds. It is right that a theory of this kind should be received with great caution.

At our next meeting, when I shall have to speak of the remedies we have lately tried in the treatment of cholera, I will endeavour to lay before you what I think can fairly be said for and against the doctrine, that the disease is so produced.

ORIGINAL CONTRIBUTIONS.

ON ALCOHOL, METHYLE, AMYLE, CYANOGEN, AND AMMONIA.

By Dr. SHERIDAN MUSPRATT,
Professor of the Liverpool College of Chemistry, Author of several Chemical Works, &c.,

In the distillation of all liquids which have undergone the vinous fermentation there is obtained an alcohol more or less dilute. Brandy contains from 50 to 52 per cent. of alcohol; rectified spirits of wine have 66 to 70 per cent.; absolute alcohol is obtained by saturating strong spirits of wine with chloride of calcium and distilling the solution. The chloride of calcium retains the water. Alcohol is highly inflammable, and its combustion, with a sufficient supply of oxygen, yields only carbonic acid and water.



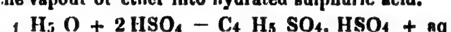
$$\underbrace{C_4\,H_6\,O_2}_{\text{Alcohol.}} + 12O = 4\,CO_2 + 6\,HO$$

The purity of alcohol is known by its specific gravity. It should contain no essential oil. If any be present, sulphuric acid will produce a red colour in the menstruum. Vogel states, that nitrate of silver is a most delicate test for the oil, for, when added to alcohol containing it, subsequent exposure to the sun's rays will communicate a red colour. Alcohol is most useful in inorganic and organic chemistry, both as a solvent and precipitant. All those inorganic salts, deliquescent in the air, are soluble in this menstruum, with the exception of carbonate of potassa. Most of the organic acids are soluble in alcohol, and a great number of the salts which these acids yield with inorganic bases. Soap, for instance, contains stearic, oleic, and margaric acids, *i. e.*, soap is oleate, stearate, and margarate of soda. It is soluble in alcohol. Some of the soap solutions are used in medicine, as tincture of soap, opodeldoc, &c. Alcohol is decomposed by acids, giving compounds with their radical. We will discuss the action of the principal acid—sulphuric acid—upon alcohol. Neutral sulphatoxide of ethyle is unknown.



$$C_4\,H_5\,SO_4 \text{ or } ESO_4.$$

The bisulphatoxide, often described as sulphovinic acid, can be obtained immediately by passing the vapour of ether into hydrated sulphuric acid.

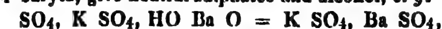


$$\underbrace{C_4\,H_5\,O}_{\text{Ether.}} + 2\,HSO_4 = \underbrace{C_4\,H_5\,SO_4,\,HSO_4}_{\text{Bisulphatoxide of Ethyle.}} + aq$$

Gregory states, the purest bisulphatoxide of ethyle is produced when sweet oil of wine is gently heated with four parts of water. It is decomposed; etherole, in the form of a yellow oil, separating, while the bisulphatoxide dissolves in the water. Bisulphatoxide of ethyle forms an extended series of salts. The formulæ of a few of the leading ones I shall place before you.

Sulphatoxide of ethyle and of hydrogen	$E\,SO_4,\ H\ SO_4$
Sulphatoxide of ethyle and of potassium	$E\ SO_4,\ K\ SO_4$
Sulphatoxide of ethyle and of barium	$E\ SO_4,\ Ba\ SO_4 + 2aq$
Sulphatoxide of ethyle and of calcium	$E\ SO_4,\ Ca\ SO_4 + 2aq$
Sulphatoxide of ethyle and of lead	$E\ SO_4,\ Pb\ SO_4 + 2aq$

The above salts are all soluble in water and spirits of wine. In the heat they are decomposed. The several products of the decomposition are etherole, alcohol, sulphurous acid, olefiant gas, &c. When the above-cited compounds are distilled with quicklime, under 300°, they are entirely converted into sulphates, sulphatoxide of ethyle and etherole. Sulphovinates, heated in a dry alembic with hydrate of baryta, give neutral sulphates and alcohol, *e. g.*



$$SO_4,\ K\ SO_4,\ HO\ Ba\ O = K\ SO_4,\ Ba\ SO_4,\ \underbrace{EO\ HO}_{\text{Alcohol.}}$$

There are compounds of ethyle with nitric, hyponitrous, carbonic, and oxalic acids which are described in all general works upon the science. The sulphides and sulphocyanides of ethyle and methyle, the radical of wood spirit, have occupied a great portion of the attention of chemists for some time. Löwdig, Kopp, and Weidmann, decomposed the bisulphide of ethyle with nitric acid, and obtained an acid which they represented by the formula



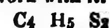
$$C_4\ H_5\ S_2\ O_4 + HO$$

A similar acid to this I procured from the sulphocyanide of ethyle, by acting upon it by nitric acid,



$$C_4\ H_5\ S_2\ O_5 + HO$$

It has been broached the acids are identical. In a short time the problem will most likely be solved, as I am at present engaged upon the subject. The bisulphide of ethyle is obtained by distilling together three parts of sulphovinate of lime with about the same quantity of bisulphide of potassium. It has a most offensive smell, so foul that it requires strong nerves to work with it. The formula is—



$$C_4\ H_5\ S_2$$

Sulphocyanide of ethyle is most difficult to obtain in large quantities. The best method of preparing it is to distil in a retort, equal measures of strong solutions of sulphovinate of lime and sulphocyanide of potassium. The capacity of the retort must be twelve times that of the space occupied by the mixture, to prevent any of the solution passing over into the receiver, which it is apt to do, owing to violent intumescence that occurs at intervals. The decomposition which takes place may be represented by the annexed equation:—



$$\underbrace{C_4\ H_5\ SO_4,\ Ca\ SO_4}_{\text{Sulphovinate of lime.}} \qquad \underbrace{KC_2\ NS_2}_{\text{Sulphocyanide of potassium.}}$$

Yield:—

$$\underbrace{C_6\ H_5\ S_2\ N}_{\text{Sulphocyanide of ethyle.}} \qquad \underbrace{K\ SO_4,}_{\text{Sulphate of potassa.}} \qquad \text{and } \underbrace{Ca\ SO_4}_{\text{Sulphate of lime.}}$$

Sulphocyanide of ethyle, discovered by Liebig, and studied by Cahours, is an oily and very dense liquid, possessing a strong alliaceous odour. The latter chemist has stated that "pretty concentrated nitric acid dissolves it with the aid of heat; but that upon cooling, it separates again completely."

This is not the case. Rather strong nitric acid decomposes the sulphocyanides of ethyle and methyle with great rapidity, affording acids which will be subsequently described. To obtain hyposulphathylic acid, about an ounce and a half of sulphocyanide of ethyle, and the same quantity of tolerably concentrated nitric acid should be introduced into a retort, connected with one of Liebig's condensers, and a slight heat applied to the retort during the whole process. At first the action is very brisk, and attended by evolution of nitrous fumes, carbonic acid and nitric oxide. Sulphuric acid is also formed during the operation; the quantity, however, depending upon the concentration of the acid employed. If weak nitric acid is used, traces only of sulphuric acid can be detected in the liquid. The distillate must be repeatedly returned to the retort, so as to insure very little loss of oil. The menstruum, after four or five distillations, poured into a porcelain basin, and evaporated in a water-bath, evolves its last trace of nitric acid, a fluid like oil of vitriol remaining, possessing a slight alliaceous odour. This, when diluted with water in which it readily dissolves, saturated with carbonate of baryta, and filtered to remove the excess of carbonate and any sulphate of baryta, yields, on gentle evaporation, large crystals of hyposulphathylate of baryta, which are purified by re-solution in water and precipitation by absolute alcohol. The acid may be obtained in a state of purity by precipitating the baryta by sulphuric acid from the aqueous solution of the salt, filtering, digesting the filtrate with carbonate of lead, re-filtering and decomposing the solution containing the lead salt, by hydrosulphuric acid. When the sulphide of lead is separated, and the filtrate evaporated in a water-bath, the acid is left in a pure state. If the acid be fused with potassa, and the residue treated with sulphuric or hydrochloric acid, large quantities of sulphurous acid are evolved. It withstands a very high temperature before suffering decomposition; fumes of sulphuric acid first escape, and then sulphurous acid is eliminated. The taste of the acid is most disagreeable and acrid, and of this the salts also partake.

The acid is miscible with water and alcohol, in all proportions, and is very persistent. Hyposulphathylate of baryta is so very soluble in water, that it can only be obtained in fine rhombohedral prisms, by allowing a concentrated solution to evaporate slowly. It is also very soluble in spirits of wine and ether, but insoluble in alcohol, which throws it down in beautiful satiny crystals. It parts with its water at 212°.

Formula:



$Ba, C_4 H_5 S_2 O_6$, or $Ba, E S_2 O_6$.

The dry crystals, when heated with soda-lime, give no indications of ammonia; fused with potassium, and tested with iron solutions, the absence of nitrogen is fully proved, and this is the most remarkable feature with regard to the acid. *In what form is the nitrogen of the sulphocyanide of ethyle eliminated?* Not *as ammonia*, for no *trace* of this *alkali can be detected. It must pass off in the form of nitrous acid or nitric oxide. No instance of similar decomposition has hitherto been observed, i. e., an acid containing no nitrogen has never yet been produced by the action of one nitrogeneous body upon another.* It will be as well to introduce the rational formulæ for the baryta, lead, and copper salts of this singularly-formed acid:—

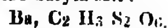
Hyposulphathylate of baryta .... $Ba, C_4 H_5 S_2 O_6 + aq$

Hyposulphathylate of lead .... $Pb, C_4 H_5 S_2 O_6 + aq$

Hyposulphathylate of copper .... $Cu, C_4 H_5 S_2 O_6 + 5 aq$

When sulphocyanide of ethyle is gradually added to a mixture of chlorate of potassa and hydrochloric acid, a very violent action takes place, which is sometimes so brisk as to inflame the volatile product. The acid is the same as that produced *by the action of nitric acid* upon the sulphocyanide of ethyle. One equivalent of sulphocyanide of ethyle, three equivalents of chlorate of potassa, and seven equivalents of hydrochloric acid, contain the elements of one equivalent of hyposulphathylic acid, two equivalents of carbonic acid, one equivalent of nitric oxide, three equivalents of chloride of potassium, seven equivalents of water, and seven equivalents of free chlorine. The sulphocyanide of ethyle is readily acted upon by chlorine gas. When a stream of the gas is passed through it for some time, large quantities of chloride of cyanogen are formed, and there subsides a heavy yellow oil, which disappears when repeatedly washed. When a cold alcoholic solution of potassa is mixed with sulphocyanide of ethyle, and the mixture is allowed to stand for some days in a corked flask, decomposition occurs. The liquid assumes a blood red colour, and acquires a most singular odour; but there are no indications of the presence of ammonia. These reactions warrant further investigation. The sulphocyanide of methyle is prepared in a similar manner to the ethyle compound. Distil together equal parts of strong solutions of sulphate of methyle and lime, and sulphocyanide of potassium. The same precautions must be observed as those described under sulphocyanide of ethyle. Sulphocyanide of methyle is a heavy oil, possessing a disagreeable alliaceous smell. It is very readily decomposed by strong nitric acid, yielding an analogous compound to the hyposulphathylic acid. The acid possesses no smell, and is not easily decomposed by heat.

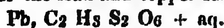
Formula for the baryta salt:—



$Ba, C_2 H_3 S_2 O_6$.

Hyposulphomethylate of baryta behaves like its analogue when heated in a test tube; water first passes off, followed by sulphuric and sulphurous acid fumes.

Formulæ of the lead and copper salts:—



$Pb, C_2 H_3 S_2 O_6 + aq$.



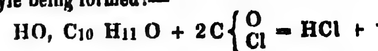
$Cu, C_2 H_3 S_2 O_6 + 5 aq$.

When a new compound is obtained in the ethyle series, we may, with a degree of certainty, assume the existence of a corresponding one in the methylic class of bodies; and although the latter series is not yet so extended as the former, still the analogues of all the sulphur and oxygen compounds of the ethyle combinations will, I am convinced, be brought to light; and as soon as this is the case, more definite conclusions may be drawn by chemists with regard to the basyles and salt radicals, upon which the whole fabric of chemical theory is, at present, based. We next come to the amyle type, products from which have lately been obtained by Mr. Medlock, of the Royal College of Chemistry. The name, amyle, has been given to the unisolated radical of a series of compounds, one of which, the hydrated oxide of amyle, has long been known as oil of potato-spirit, first analysed by Dumas, and afterwards investigated by Cahours. I shall incorporate portions of Mr. Medlock's paper in this lecture, in order to present to your notice the newest and most interesting compounds in the series. The substance serving for the preparation of the compounds, separates in the latter stages of the distillation of common corn spirit. "It is evident that the fousel oil, obtained in the distillation of spirit from barley, is perfectly identical with potato-oil. As obtained from the distillery, the oil still contains alcohol and water, but no other impurities. On rectification, it begins to boil 85°—185° Fahr.; after about one-third has passed over, the ebullition becomes constant at 132°—269° Fhr., the boiling-point of pure hydrated oxide of amyle; at this temperature the whole of the remaining liquid distils. It was evident that the product did not contain any oil of a higher boiling point. It remained, however, to ascertain the composition of the distillate which had been collected below 132°—269° Fahr. Chemists are acquainted with a variety of cases in which, of late, butyric and metacetonic acids have been observed, as products of fermentative processes very similar to the acetic fermentation; these processes are, however, up to the present moment, by no means so well understood in their different stages, as we understand the conversion of sugar into alcohol, or that of alcohol into acetic acid. The remarkable parallelism which formic, acetic, metacetonic, butyric and valerianic acids present in all directions, renders it, to a certain extent, probable, that, in what place soever we meet with these acids as products of fermentation, their formation is preceded by that of alcohols, similar to pyroxilic spirit, alcohol, and fousel oil. It appeared by no means improbable, that the first product of the distillation might contain the alcohol of metacetonic, or of butyric acid. In order to answer this question, to which my attention was particularly directed by Dr. Hofmann, I re-distilled the earlier distillates with particular care, removing the water by means of chloride of calcium, fractioning at intervals of five degrees, and separating the alcohol and fousel oil which came over in the beginning and at the end of the distillation. The result of repeated distillations of this kind, was the complete separation of this product into common alcohol and fousel oil, there being no other compound present." The action of chlorocarbonic acid—phosgene gas—upon fousel oil, gives rise to a most singular decomposition. The oil absorbs the gas with great rapidity, much heat being evolved during the process. When perfectly saturated with phosgene gas, hydrochloric acid is abundantly given off, and the liquid acquires a rich amber hue, and separates into two distinct strata; the lower one, consisting of a small quantity of accidental water, profusely charged with hydrochloric acid. The surface layer, mixed with an equal volume of distilled water, gives up a large quantity of hydrochloric acid. This acid liquid can be removed by a pipette. Plenty of acid still remains, therefore, protoxide of lead must be placed in contact with it and the whole finally dried by means of chloride of calcium. When the desiccated liquid is submitted to distillation, decomposition occurs; it blackens, and volumes of carbonic and hydrochloric acids are evolved, the boiling point rising from 150—302° Fahr., to 224°—135° Fahr., when it becomes stationary. The oily product which passes over during the escape of the gases, after rectification, becomes a perfectly clear and transparent liquid, possessing an agreeable odour quite different from the original mixture of fousel oil and phosgene gas. Its constant boiling point is 224°—435° Fahr. This compound is carbonate of the oxide of amyle.

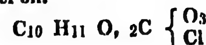


$C_{10} H_{11} O, CO_2$.

The production of this compound is easy of solution. The action of phosgene gas on fousel oil is perfectly analogous to that which it exerts on alcohol; hydrochloric acid and chlorocarbonate of amyle being formed:—

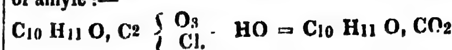


$$\underbrace{HO, C_{10} H_{11} O}_{\text{Fousel oil.}} + 2C\left\{\begin{matrix} O \\ Cl \end{matrix}\right. = HCl +$$



$$\underbrace{C_{10} H_{11} O, 2C \left\{\begin{matrix} O_3 \\ Cl \end{matrix}\right.}_{\text{Chlorocarbonate of amyle.}}$$

The chlorocarbonate of amyle, however, is a most unstable compound; for, when brought into contact with water, it is decomposed into hydrochloric acid, carbonic acid, and carbonate of oxide of amyle:—



$$\underbrace{C_{10} H_{11} O, C_2 \left\{\begin{matrix} O_3 \\ Cl. \end{matrix}\right.}_{\text{Chlorocarbonate of amyle.}} \cdot HO = \underbrace{C_{10} H_{11} O, CO_2}_{\text{Carbonate of amyle.}}$$

$+ CO_2 \times H\,cl.$

The preparation of sulphocyanide of amyle is perfectly analogous to that of the described ethyle and methyle compounds.

Formulæ for the three:—

Sulphocyanide of ethyle .... $C_4 H_5 Cy S_2$
Sulphocyanide of methyle .. $C_2 H_3 Cy S_2$
Sulphocyanide of amyle .... $C_{10} H_{11} Cy S_2$

The last treated with nitric acid affords a similar acid to the hyposulphathylic and hyposulphamethylic acids. I will place the formulæ before you to prove their great analogy:—

Hyposulphamethylic acid. $H, C_2 H_3 S_2 O_6$
Hyposulphathylic acid .. $H, C_4 H_5 S_2 O_6$
Hyposulphamylic acid .. $H, C_{10} H_{11} S_2 O_6$

The methylic compound has been obtained by Dr. Kolbe as a product of the metamorphosis of chlorocarbo-hyposulphuric acid under the influence of galvanic electricity. The hyposulphate of the chloride of carbon, chlorocarbo-hyposulphuric acid, is the hyposulphamethylic acid in which three equivalents of hydrogen are replaced by three of chlorine,—*e. g.*:—

Hyposulphamethylic acid .... $H, C_2 H_3 S_2 O_6$
Chlorocarbohypo-sulphuric acid $H, C_2 Cl_3 S_2 O_6$

Hofmann states, and with good reason, that Medlock's acid is evidently identical with the compound prepared by Gerathwohl and Erdmann, as a product of the decomposition of the mercaptan of the amyle series.

There is a splendid field of discovery still open in the ethyle, methyle, and amyle class of bodies. I feel convinced before long we shall be able to append to the preceding lists, compounds of ethyle, &c., corresponding to the whole series of sulphur acids, by acting with nitric acid upon the higher sulphides of ethyle, &c., e.g.,

Tritimathylic acid...... $C_4\ H_5\ S_3\ O_5$
Tetratimathylic acid.... $C_4\ H_5\ S_4\ O_5$
Pentatrimathylic acid .. $C_4\ H_5\ S_5\ O_5$

We enter next upon cyanogen, the discovery of which by Gay Lussac, has proved of the greatest importance for organic chemistry. It is obtained by heating perfectly dry cyanide of mercury. Cyanogen is a permanent gas at the ordinary atmospheric pressure; but, compressed to one fourth of its volume, it is converted into the liquid state. It is soluble in water, posseses a penetrating odour, and burns with a purple red flame. Cyanogen is composed of two equivalents of carbon and one equivalent of nitrogen:

Formula, $C^2 N$. Symbol, Cy.

This compound radical combines directly with metals; potassium and sodium take fire and burn in this gas, exactly as they do in chlorine, giving cyanide of potassium and cyanide of sodium. The combination of cyanogen with metals, with oxygen, with hydrogen, with sulphur, with chlorine, &c., are extremely numerous. I have stated to you the interesting compounds of ferrocyanogen with many of the most important organic radicals. At present, we will only discuss the hydroferrocyanic and the hydroferricyanic acids and chloride of cyanogen. The first is prepared by mixing a cold saturated solution of ferrocyanide of potassium and an atomic proportion of strong hydrochloric acid;

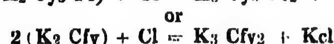
agitate with ether, which rises to the surface with the hydroferrocyanic acid as a white crystalline mass, that must be dried under the air-pump. When desiccated it can be dissolved in alcohol, and the menstruum allowed to evaporate spontaneously. The aqueous solution of this acid is decomposed by boiling, into hydrocyanic acid and Prussian blue. The formulæ for the acid is given at the head of the annexed series :—

Ferrocyanide of hydrogen.....	H_2 Cfy
Ferrocyanide of potassium ..	K_2 Cfy
Ferrocyanide of lead	Pb_2 Cfy
Ferrocyanide of copper......	Cu_2 Cfy

A solution of ferrocyanide of potassium is an excellent test in the laboratory for determining the presence of copper,—a solution *containing one sixty-thousandth of its weight of oxide of copper* assumes a reddish brown colour with this re-agent. Ferrocyanide of potassium occurs almost pure in commerce. It is prepared by fusing in cucumber-shaped vessels, horn, hoof, and all substances rich in nitrogen, with two and a half parts of carbonate of potassa. The molten mass is, when cold, macerated with water, and the supernatant liquor when clear syphoned into vessels to crystallize. There is generally a great loss in this process, owing to the decomposition in solution of the cyanide of potassium into ammonia and bicarbonate of potassa. The air must be excluded as much as possible during fusion. Liebig and Gregory say, " why not fuse the animal matter with pure carbonate of potassa in close iron vessels, when from the absence of sulphate—always present in the American pearlashes and potashes—the pots would not be corroded." Cyanide of potassium would be formed, which, when digested with iron filings in open vessels, would give ferrocyanide. A solution of pure cyanide of potassium readily dissolves iron. If substances containing carbon and nitrogen are fused with pearlash at a red heat, the mass, as it comes from the furnace, does not contain any ferrocyanide, as this only forms when the black flux is boiled with water in open vessels, the cyanide of potassium dissolving the metallic iron, or sulphide of iron derived from the dried blood used or the corrosion of the pot, and being converted into ferrocyanide of potassium. The ferricyanide of potassium is also made on the large scale by passing chlorine gas into the ferrocyanide of potassium.



$$2\,(K_2\ Cy_3\ Fe) + Cl = K_3\ Cy_6\ Fe_2 + KCl$$

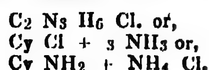


or

$$2\,(K_2\ Cfy) + Cl = K_3\ Cfy_2 + Kcl$$

Hydroferricyanic acid may be obtained by adding to recently precipitated ferricyanide of lead, weak sulphuric acid. On filtration and careful evaporation, the acid is obtained in yellowish crystals. These cyanogen compounds are most intricate, for in the heat, or when treated with alkalies and acids, they give rise to such strangely constituted bodies. A singular combination occurs from the union of dry chloride of cyanogen and ammoniacal gas. I passed chlorine gas through hydrocyanic acid and distilled, conducting the chloride of cyanogen formed through two tubes filled with chloride of calcium, into a dry flask, immersed in water, into which was also passing ammonia, dried over sticks of potassa. During the operation a great elevation of temperature ensued, and, after the lapse of half an hour, a beautiful, yellowish red, crystalline mass deposited on the recipient. This substance is completely soluble in hot water. When washed with absolute alcohol it loses its colour and becomes waxy white.

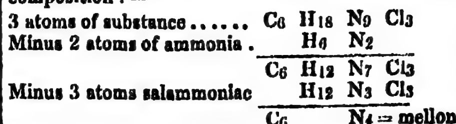
The subjoined formulæ represent the composition of this singular substance :—



$$C_2\ N_3\ H_6\ Cl.\ or,$$
$$Cy\ Cl + 3\ NH_3\ or,$$
$$Cy\ NH_2 + NH_4\ Cl.$$

The first is the empirical formula ; the others represent it as a compound of chloride of cyanogen with ammonia, or cyanamide with chloride of ammonium. When the substance is strongly heated, it fuses to a red liquid, evolving ammonia and chloride of ammonium, whilst a fine, yellowish, scaly-looking substance remains—probably mellon.

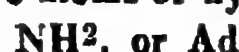
If so, the following equation represents the decomposition :—



3 atoms of substance......	$C_6\ H_{18}\ N_9\ Cl_3$
Minus 2 atoms of ammonia .	$H_6\ N_2$
	$C_6\ H_{12}\ N_7\ Cl_3$
Minus 3 atoms salammoniac	$H_{12}\ N_3\ Cl_3$
	$C_6\ N_4$ = mellon

Compounds of chloride of cyanogen with ammonia are most numerous ; but I suppose the difficulty of preparing them, and the deleterious effects of the chloride of cyanogen, when inhaled, deters chemists from entering more fully into this new field of research.

As ammonia occupies so prominent a place in organic substances, it will be as well for me to advert for a short time to a few of its leading features, &c. This volatile alkali is now regarded by all chemists to be an amide of hydrogen,—amidogen being an hypothetical radical composed of one atom of nitrogen with two atoms of hydrogen.

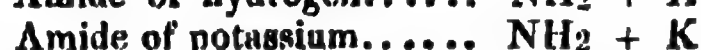


NH^2, or Ad

There is good reason for adopting this view, because when ammonia is passed over potassa heated strongly, a green mass is formed,—amide of potassium, *i.e.* ammonia,—amide of hydrogen,—in which the third atom of hydrogen is replaced by another metal.



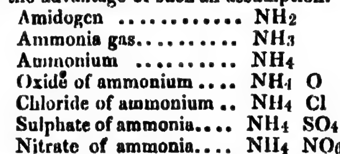
Amide of hydrogen...... NH_2 + H



Amide of potassium...... NH_2 + K

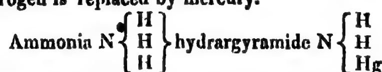
Ammonium is the binamide of hydrogen, a compound which has not yet been isolated. It has, however, been obtained in combination with mercury as the amalgam of ammonium. The amalgam is formed by the action of electricity on chloride of ammonium, the negative pole communicating with this salt through a globule of mercury. By contact with water it splits into mercury, ammonia, and hydrogen.

As the existence of ammonium is now generally admitted, the ammoniacal salts are always represented as compounds of it. A few examples will show the advantage of such an assumption.



Amidogen	NH_2
Ammonia gas..........	NH_3
Ammonium	NH_4
Oxide of ammonium	NH_4 O
Chloride of ammonium ..	NH_4 Cl
Sulphate of ammonia....	NH_4 SO_4
Nitrate of ammonia....	NH_4 NO_6

Amidogen combines with metals and compound radicals. The amides of sodium and potassium are known in a separate form. White precipitate is a compound of amide of mercury with chloride of mercury, NH_2 Hg + Hg Cl. The amide of mercury is, in fact, ammonia, in which the third atom of hydrogen is replaced by mercury.



$$\text{Ammonia } N\begin{cases}H\\H\\H\end{cases} \text{hydrargyramide } N\begin{cases}H\\H\\Hg\end{cases}$$

Ammonia exists almost everywhere. Many agriculturists allow it to escape into the air from their farm recrements ; a most unwise plan, when it is so essential to vegetal life. There are, in fact, at present, a variety of substances which, sooner or later, will constitute races of vegetables, and contribute to the sustenance of thousands of beings ; even organic matter, which, during its disintegration, is resolved into carbonic acid, water, and ammonia ; finally, re-enters the vegetal organism in the persistent form, destined to repass through the same ceaseless cycle of vicissitudes and metamorphoses. I have endeavoured to present in this paper an epitome of the discoveries and theoretical views introduced into our noble science the last ten years, in the alcohol, ether, &c., class of bodies. What fruits may not another ten years bring forth ? Many investigations require repetition, some owing to improved apparatus and methods of research, others from the carelessness with which they have been conducted. Young chemists are springing up everywhere, too eager to enter upon the investigation of new products, before they are conversant with qualitative and quantitative analysis ; and without having worked upon known compounds, and perusing attentively, standard works upon all the theories and intricacies of science. To read the life of Bezelius, the illustrious Swede, or a sketch of Liebig, the sun of the scientific world, will give to all those interested in chemistry, an insight into the importance of a well-grounded knowledge of this, the most useful and sublimest of sciences. I have, for years, enjoyed the intimacy of the latter, to whom the whole world is indebted for valuable discoveries and useful applications of the grand science he professes to agriculture, physiology, and manufactures. The Swede has added more facts to chemistry than any other philosopher ; the German has thrown a beauty, simplicity and lasting interest over the science, which will, for ever, place his name first in the chemistry of agriculture and pathology. In him we see "there is no boundary to knowledge, nor the discovery of thought." Every fact has cost him immense labour to acquire, and labour to retain, and, although his students find him ready to pronounce upon the nature, properties, and history of almost every known inorganic and organic substance, still this prodigious mass of scientific information has only been acquired by indomitable perseverance and prodigious labour ; and, to show the infinity of science, how often have I heard even him exclaim, "*Ancora imparo!*"

CASE OF PLACENTA PRÆVIA.

By CHARLES WALLER, Esq., M.D.,
Obstetric Physician to St. Thomas's Hospital.

Having during the past week been called to another case of placenta prævia, I send the details for insertion in your journal, that they may be added to those already published in several preceding numbers. I am happy to say, that the case terminated very successfully. It will be seen, that by combining the two plans recommended in the management of these fearful complications of labour, the objects of both were accomplished, namely, by the complete separation of the placenta, the hæmorrhage was suppressed, whilst, on the other hand, by prompt delivery, the life of the infant was preserved.

Case 37.—On the morning of the 7th of October, was requested to visit a lady under the care of Mr. Dunn, of Norfolk-street, Strand, who gave me the following history of the case. His patient, a lady, aged thirty-seven years, was pregnant for the sixth time, and had passed her eighth month of gestation. Her former labours were unattended by difficulty or danger, and her children had all been born alive. On Saturday evening, September 29, she was alarmed by a sudden and profuse discharge of blood. Mr. Dunn being from home, his assistant attended : before his arrival the flooding had considerably abated, but great faintness was complained of. The patient was then sitting up : she was instantly placed in the recumbent position, when the discharge gradually ceased. When Mr. Dunn saw her the next day, Oct. 1st, there had been no return of the bleeding, and the only thing complained of was weakness from loss of blood. On his visit, Oct. 3rd, he found his patient on the sofa free from discharge, and feeling tolerably well ; during the night, however, after she had been in bed and asleep, the flooding suddenly returned, and Mr. Dunn was very hastily summoned to her assistance. When he arrived he found that the discharge had much lessened. An examination was made ; owing, however, to the nearly closed condition of the os uteri no satisfactory information was elicited. From that period there was no return of bleeding until Saturday evening, Oct. 6th, when it re-appeared suddenly. At this time the os uteri was beginning to open, though without any regular parturient efforts. At three o'clock on the morning of the 7th, the liquor amnii came away, and at seven o'clock the labour not advancing, my attendance was requested. At that time there was a mere drain from the uterus ; the patient exhibited the usual well-marked symptoms indicative of the serious loss of blood she had sustained ; the countenance was blanched ; the temperature of the body greatly diminished ; the pulse extremely feeble, although not inordinately increased in frequency ; the stomach retained nourish-

ment, and there was no restless agitation. On examination, I found (as I had previously been informed by Mr. Dunn,) the placenta attached directly over the os uteri, which was fully dilated. The entire circumference of the placenta was attached to the uterus, with the exception of a very small part of its thin edge anteriorly, through which the head could be distinctly felt; the greater part of the thick central mass was necessarily separated by the dilatation of the os. Before removing my hand, I detached the adhering portion from its uterine connexion, and removed the clots which had accumulated in the vagina, then carefully wiped the external parts with a napkin, and waited a few seconds to ascertain whether the operation had been attended with a renewal of the hæmorrhage: *not the slightest drain occurred.* As the parts were well prepared for delivery, and as the speedy removal of the child afforded the only chance of its life, I again introduced my hand, passed by the placenta, and turned the child with great facility; and, although the infant at birth showed but feeble symptoms of vitality, complete resuscitation took place after the usual means for the recovery of asphyxiated children had been had recourse to. I have since been informed by Mr. Dunn, that every thing has gone on favourably, both as regards the mother and the child.

The termination of this case was highly satisfactory. The loss of blood sustained by the patient had been so great that she would probably have sunk from exhaustion had the hæmorrhage been renewed; and I cannot but consider that the entire separation of the placenta, prior to turning, tended greatly to produce the desirable result, as by it those frightful gushes, which frequently take place during the operation of turning, were altogether prevented. In order to avoid the danger as much as possible, it was my plan formerly to pass my hand through the placental substance; but I am convinced that its entire detachment is more certain, more safe, and more easily accomplished, whilst the danger to the infant is by no means increased.

Finsbury-square, Oct. 13, 1849.

ON THE USE OF THE BISULPHURET OF CARBON IN CHOLERA.

By JOHN HASTINGS, M.D.

Having seen, in the course of the last few months, considerable benefit arise from the use of the bisulphuret of carbon, in that stage of diarrhœa in children, in which the sunken eye, shrunken features, feeble pulse, and wasted form denote that the patient is suffering from extreme exhaustion, I determined to try its remedial powers in the first case of cholera I was called in to, in the stage of collapse.

As the bisulphuret of carbon is but little known as a medicinal agent, it may not be uninteresting to mention, that it was discovered by Lampadius in 1796—Formula CS_2 — prepared by passing sulphur in vapour over charcoal heated to redness in a porcelain tube; and purified by distillation with the chloride of calcium. It is liquid, colourless, and the clearest fluid in nature, highly refractive, of the sp. gr. of 1250, boils at 110° Fahr., and does not freeze, according to my notes of Kemp's lecture, at 165° Fahr. below zero; hence useful for thermometers. (a) Dr. Pereira, however, says it freezes at 60° Fahr. below zero. It produces great cold by evaporation, is very inflammable, and difficult to be extinguished. It explodes in oxygen and the nitric oxide, if the vessels containing the gases are warmed. Sulphurous and carbonic acids are the products of its combustion in atmospheric air. It unites with alcohol and ether, but separates on the addition of water, with which it will not enter into combination, though it is soluble in the oils. Its taste is hot and pungent.

In 1842 it was applied by Dr. Turnbull (b) to the eye and ear in vapour, and also to some enlarged lymphatic glands. It was discovered by a Norwegian to be an anæsthetic body, and afterwards employed as such by Drs. Simpson and Snow on several occasions. It has been used by (a) Dr. Burgess and others, in affections of the skin. It has been administered internally in gouty and rheumatic affections as a stimulant and sudorific; also as an emmenagogue and restorative. It has also been employed as a counter-irritant.

Case 1.—On the evening of September 7th, I was requested by my friend Mr. Brunskill, of Upper Eccleston-place, Pimlico, to meet him in the Vauxhall Bridge-road, at a case of cholera. The patient was a retired tradesman, in easy circumstances, aged 65 years. He had always led a temperate life, and enjoyed tolerable health; his bowels had commonly a tendency to relaxation. For several days, he had suffered from diarrhœa, but did not send for his medical attendant, Mr. Brunskill, before yesterday. This morning he was sick, for the first time, after breakfast; the diarrhœa had become more frequent, and the evacuations assumed a rice-water appearance. As the day advanced these symptoms increased, the surface of the body grew cold, respiration was more hurried, and cramps made their appearance. His pulse was now thready, respirations thirty-six in the minute, breath and tip of the tongue cold, countenance livid, voice croaking, hands shrivelled and cold. He complained of great agony about the abdominal region, and the cramps of the lower extremities were so severe, that he could not be kept in bed. No water had been passed for four hours. He had been treated with calomel and opium in pills, and a chalk mixture containing catechu. We now determined on trying a tablespoonful of the following mixture every hour:—

℞ Carbon. bisulph, ♏ x.; vitelli ovi, (No. 1;) aq. destil, ℥vj. M.

Sept. 8, 1 p.m.—He was in every way improved, the bowels had acted once, and the discharge had a feculent odour; was free from vomiting, and no water had been passed. He had not suffered from cramps after the first dose of the mixture. Cont. mist.

Sept. 10, half-past 11, a.m.—Improving in all respects.

Sept. 12, 2 p.m.—He was now so much better, that the mixture was discontinued for salines, my visits ceased, and I have since learned, from Mr. Brunskill, that he recovered rapidly.

The re-action which this remedy occasioned in the preceding case was so striking and satisfactory to Mr. Brunskill and myself, that I decided on testing its efficacy on a more extensive scale, through the medium of the District Medical Officers, in Lambeth and other places, where cholera was prevalent; and the following reports are all I have yet been able to collect from these gentlemen.

The cases treated by the district medical officers are drawn up very concisely; their time being unceasingly occupied with professional calls, consequent on this epidemic, prevented their doing more than giving a bare outline of the symptoms and treatment. They have complied with my request, and treated only collapsed cases with the bisulphuret of carbon. I adopted this course, that there might be no doubt about the nature of the disease treated, although I risked its employment in cases which were *in articulo mortis.*

Dr. Fairbrother, of the London-road, Southwark, treated the following seven cases:—

Case 2nd.—Sept. 9th, a female, aged 20, residing at 18, Bradd-street, Cornwall-road, was seized with the ordinary symptoms of cholera, without premonitory diarrhœa, and the stage of collapse rapidly followed. Three grains of calomel were administered every quarter of an hour, in conjunction with a mixture containing ammonia and opium; as no amendment ensued after some hour's trial, it was abandoned, and a tablespoonful of the following mixture given every hour:—

℞ Carbon. bisulph, ♏ xv.; vitelli. ovi, (No. 1;) aq. destil., ℥vj. M.

Sept. 10.—As all the symptoms of collapse had disappeared, the mixture was discontinued, and the patient rapidly recovered.

Case 3.—Sept. 9.—Mrs. Sargent, aged 50, residing at 19, Temple-street, London-road, was pulseless, and in a state of intense collapse. She had been treated by a neighbouring practitioner with calomel and capsicum, before she came under my care. A table-spoonful of a mixture similar to the one given in the preceding case was administered every hour; several hours passed before there was much evidence of improvement; but by the time the mixture was consumed, complete re-action was realised, and she rapidly recovered.

Case 4.—Sept. 10.—Mr. Heath, aged 66, residing in Pitt-street, Elephant and Castle, was seized with cholera yesterday. Calomel, opium, and ammonia were used; but, as the patient gradually became worse, the bisulphuret of carbon was administered, as in the two preceding cases.

Sept. 11.—The vomiting, diarrhœa, and all symptoms of collapse had disappeared, re-action showed itself after a few doses of the medicine, and he rapidly recovered.

Case 5.—Sept. 14.—Mary Hibbert, aged 6 years, residing at 18, Bradd-street, Cornwall-road (the residence,, also, of Case 2), was pulseless, and intensely collapsed. This child, not having been subjected to any treatment, a tea-spoonful of the following mixture was given every half hour:—

℞ Carbon. bisulph., ♏vj.; vitelli ovi.; Aq. destill., ℥iss.

Reaction ensued in a comparatively very short time, and she quickly recovered without the aid of any other remedy.

Case 6.—Sept. 14.—John Randall, aged 65, residing at St. George's-passage, St. George's-market, was in the stage of collapse, when the bisulphuret of carbon was administered in the usual dose. It brought on re-action, and was discontinued. The patient was put under the influence of the sesquicarbonate of ammonia, but he eventually died from exhaustion.

Case 7.—Sept. 25.—A child, when first seen, was suffering from intense collapse. Ammonia and small doses of opium were frequently administered; but as no improvement manifested itself, after two hours' trial, I prescribed the bisulphuret of carbon, which at once arrested the sickness; a slight flush on the cheeks, with other signs of re-action, appeared, when the second or third dose had been taken, but these were of short duration, as the child *died* a few hours after.

Case 8.—Mary Garrett, aged 35, of 21, Temple-street, Elephant and Castle, was seized with cholera on Sept. 18. Calomel, in repeated small doses, with the sesquicarbonate of ammonia, was administered, but intense collapse rapidly set in, when the bisulphuret of carbon was resorted to; re-action speedily followed, ammonia and tonics were then employed, and she *recovered.*

Mr. Smyth, of Lambeth-walk, one of the Lambeth district surgeons, has given the bisulphuret of carbon in the following cases: at the same time he used that agent, he continued the calomel treatment.

Case 9.—Sept. 11.—Mrs. Gleeman, aged 30, 9, William-street, High-street, in the stage of collapse, took a table-spoonful of the following mixture every hour:—

℞ Carbon bisulph., ♏xv.; vitelli ovi, No. 1.; aquæ destill., ℥viii.

Re-action followed a few doses of the mixture, and she *recovered.* The first dose suppressed the vomiting.

Case 10.—Sept. 11.—Mrs. Watson, Noah's-ark-court, Westminster-bridge, aged 40. In this case the collapse was intense; a mixture similar to the preceding was administered, which immediately arrested the sickness, re-action speedily followed, and she recovered.

Case 11.—Sept. 14.—John Hughes, aged 4 years, residing at Duke's Head-court, had previously suffered from cholera. This child was collapsed when the bisulphuret of carbon was administered. It occasioned sickness, but brought on slight re-action. The child *died* from the consecutive fever. I have since learned that most of the mixture con-

(a) Elements of Materia Medica. By J. Pereira, M.D. 1849. Page 365.
(b) Medical Gazette, Nov. 5, 1842.

(a) Eruptions of the Head, Face, and Hands, by J. H. Burgess, M.D. p. 17 1849.

taining the bisulphuret of carbon was thrown away by the mother of the child, under the idea that the medicine was bad from the smell.

Case 12.—Sept. 16.—Mrs. Davis, aged 55, residing at 3, Harper's-walk, took the bisulphuret of carbon for several hours without vomiting whilst in the stage of collapse; but no reaction was developed, and she *died*.

Case 13.—Sept. 17.—Mrs. Keighley, residing at 5, Carlisle-row, was in the stage of collapse when the bisulphuret of carbon was given. It occasioned great sickness, and was discontinued in consequence, but not before reaction was established, and she eventually *recovered*. She was attended by Mr. Smyth's assistant.

Case 14.—Sept. 18.—Miss D., aged 35 years, residing at Boswell-terrace, was seized with Asiatic cholera early on the morning of the 18th September. She was seen by my assistant, who prescribed small doses of calomel, according to Dr. Ayre's plan of treatment. Her symptoms becoming worse, I was requested to see her at 10 a.m. I found her at that time suffering severely from cramps in the legs, arms, stomach, and dorsal muscles, with tongue cold, voice choleric, pulse scarcely perceptible at the wrists, hands and feet cold, and lips blue, indicating clearly a perfect state of collapse. I accordingly gave one tablespoonful of the following mixture every hour, still continuing the calomel treatment:—

℞ Carbon Bisulph., ♏ xx.; vitelli ovi (No. 1); aq. destill, ℥vj. M.

2 p.m.—Symptoms improved.

11 p.m.—A decided improvement, re-action having evidently set in.

At this time, the bisulphuret of carbon having been rejected from the stomach, and the patient being disinclined to continue the remedy, I advised its being discontinued, recommending a perseverance in the calomel treatment. When seen next morning, she was under the influence of mercury, rejected bilious matter from the stomach, and passed a copious bilious evacuation.

Consecutive fever came on, but in a mild form; and she is now perfectly recovered. In this case, the bisulphuret of carbon appeared to have had a decided effect in producing re-action.

Mr. Avery, of 3, Queen-street, May-Fair, one of the surgeons of the Charing-cross Hospital, has forwarded the following three cases, of which the first two were treated by Dr. Golding, one of the physicians to the Hospital.

Case 15.—A male adult, in an advanced stage of collapse from cholera, recovered, in the Charing-cross Hospital, under the use of the bisulphuret of carbon.

Case 16.—Another patient, in a hopeless state of collapse, was also treated, in the same hospital, with the bisulphuret of carbon, but died.

The following case was communicated to me (Mr. Avery) by Mr. Bostock, to whom I had forwarded some of the bisulphuret of carbon.

Case 17.—A soldier in the Tower was seized with the cholera on Friday, September 28; he was sent to the Regimental Hospital in Pimlico, where he was treated with the bisulphuret of carbon and recovered. He also took a few grains of calomel and saline injections. Bilious evacuations and water were passed on Saturday, and the Battalion Surgeon observes, "the medicine has been of essential service."

The following case was treated by Mr. Austin, of 3, Walker's-place, Rotherhithe.

Case 18, Sept. 15.—D. V., aged 23, unmarried female; arrived in London, from Reading, in good health, on Friday, the 14th, on which day her mother had died of cholera in the same house.

I first saw her at 8 o'clock on Saturday evening, (the 15th.) She had been purged a great many times since 12 at noon, and had also vomited frequently. Her countenance was shrunken and of a dusky hue, eyes sunken, conjunctiva injected as from weeping, tongue slightly coated and cool, but not cold, pulse rapid and very feeble, hands and feet cold; the former shrunken and dark coloured, but not blue, (washerwomen's hands); the lower extremities cramped severely, no urine passed since noon, and the last evacuation from the bowels exhibited the genuine rice-water appearance. The voice was husky and the epigastrium very hot. She took the bisulphuret of carbon, as prescribed by you, xv. minims to 6 oz., one tablespoonful every hour.

11 p.m.—She had taken two doses of the bisulphuret; her countenance was more shrunk and bluish, the tongue colder and more coated, pulse almost imperceptible, hands and feet very cold—the former deep blue and bathed in perspiration—cramps more severe, no urine passed, and four motions of rice-water appearance. The voice was choleric and with difficulty to be understood. Cont. mist.

Sunday morning, 5 o'clock.—Her colour was of a deeper blue, the tongue much more coated but warm, pulse quite lost, hands and feet warmer and moist with perspiration, cramps abated in some degree, conjunctiva intensely injected and œdematous, a flush in the cheek, which felt warm, no urine passed, and two motions, both coloured with blood. The voice was rather improved. Cont. bisulphuret.

8 a.m.—The countenance was improved, and the blue colour less intense; the tongue warm, and more coated; the pulse perceptible; the cramps had ceased; no urine; no motions; and the voice still improved. Cont. bisulph.

10 a.m.—Improved. No motions.
1 p.m.—Ditto. Ditto.
5 p.m.—Ditto. Ditto.

8 p.m. (24 hours from my first visit).—She was quite warm; the tongue enormously coated, and conjunctiva excessively injected; the shrivelled appearance of the hands was gone; and no urine had been passed. She spoke in a natural tone, and conversed freely. Cont. bisulph.

11 p.m.—Improved. Cont. bisulph.

Monday, Sept. 17, 10 a.m.—She felt well, but very weak; the tongue still coated as before, and conjunctiva likewise injected; but no motions, and urine had been passed in the night. She asked for nourishment, which was allowed. The bisulphuret was discontinued.

Tuesday.—Improved; she had passed two loose green motions.

Wednesday.—Improved; conjunctiva natural, and tongue clean. She had passed three motions as before.

Thursday.—She sat up, and eat a mutton chop with port-wine negus at one o'clock; and in the afternoon laid on the bed, and slept. In the evening, however, not having awoke, the friends were alarmed, and when I saw her, I could with difficulty arouse her. The pulse was natural; the head cool; the tongue clean; the hands and feet warm; the bowels had acted once, and urine had passed; nothing, in fact, ailed her but the drowsiness, which increased more and more during the night, with stertorous breathing, contracted pupils, total insensibility even to pinching and pricking, and on the following morning (Friday, the 21st) she *died*.

She took in all fifty minims of the bisulphuret of carbon, and no other medicine.

N.B. The vomiting ceased from the exhibition of the first dose.

Mr. Bell, of 46, Manor-place, Walworth, Medical Officer of St. Mary, Newington, has treated the following twenty cases, and favoured me with the accompanying observations:—

"I have tried calomel in large and small doses, but with very unsatisfactory results. The efficacy of the bisulphuret of carbon over every other remedy in cholera, the successful termination of the following cases goes far to prove; and if administered in an early stage of the disease, or even before intense collapse has set in, a speedy reaction may almost in every case be predicted with unfailing certainty.

"A peculiarity of its action is the fact of the stomach rejecting the first dose, while it retains the succeeding ones, three of which I have generally found sufficient to arrest the vomiting and purging, the latter being more frequently put a stop to than the former. Should the vomiting, however, continue, I have found a mixture composed of sod. sesquicarb. ℈ij., et aq. destillat ℥vj., capt. coch. amplum om. hora, eminently successful in arresting it. When thorough reaction has set in, I follow up the bisulphuret of carbon with stimulants until complete recovery takes place."

Case 19.—Elizabeth Elbourne, aged 50, of 29, Portland-street, Walworth. She was attacked with cholera, September 10. The bisulphuret of carbon was given, and the purging ceased, but the vomiting continued, which, however, was likewise arrested by the sesqui. sod., as mentioned above, and *recovery* took place on September 22nd.

Case 20.—Joseph Roleinsau, aged 18 months, of 8, Portland-street, was attacked September 10. The bisulphuret carbon was given, and he *recovered* September 14.

Case 21.—Ann Prince, aged 37, of 4, St. Peter's-street, Walworth, was attacked September 10. The bisulphuret of carbon was administered; the vomiting and purging ceased; stimulants were given; and she *recovered* September 15.

Case 22.—Frances Rich, aged 67, of 6, Little Pleasant-row, Walworth, was attacked September 11. The bisulphuret of carbon was administered, the vomiting and purging ceased, stimulants were given, and she was doing well up to the 24th, when the vomiting and purging returned, and she *died* September 26.

Case 23.—William Foley, aged 7, of 1, Metcalf-buildings, Walworth-common, was attacked Sept. 11; the bisulph. carb. was administered, the vomiting and purging ceased, and he recovered Sept. 15.

Case 24.—Robert Chester, aged 30, of 14, Trafalgar-street, St. Walworth road, was attacked Sept. 11; the bisulph. carb. was used, and he recovered September 15.

Case 25.—Sarah Churchman, aged 33, of Hawksbury Cottage, Dean's-buildings, Walworth, was attacked Sept. 12; the bisulph. carb. was used, the vomiting and purging ceased, and she recovered Sept. 23.

Case 26.—Maria Brown, aged 3, of 9, Prince's-street, Walworth, was attacked Sept. 16; the bisulph. carb. was used, the vomiting and purging ceased; stimulants were given, the vomiting and purging returned, and she died Sept. 20.

Case 27.—Mary Collins, aged 29, of 9, St. Peter's-street, was attacked Sept. 17; the bisulph. carb. was used, and she recovered Sept. 19.

Case 28.—Esther Wilson, aged 2, of 46, Portland-street, was attacked Sept. 18; the bisulph. carb. was used, and she recovered Sept. 29.

Case 29.—Ann Revitt, aged 39, of 6, Belgrave-place, Walworth, was attacked Sept. 19; the bisulph. carb. was used, the vomiting and purging ceased, and she recovered Sept. 23.

Case 30.—George Foley, aged 4, of 1, Metcalf-buildings, was attacked Sept. 21; the bisulph. carb. was used, the vomiting and purging ceased, and he recovered September 24.

Case 31.—Emma Millidge, aged 41, of 4, St. John's-street, Walworth, was attacked Sept. 18 the bisulph. carb. was used, the vomiting and purging ceased, and she recovered Sept. 21.

Case 32.—Charlotte Crate, aged 42, of 19, King's-row, Walworth-road, was attacked Sept. 21; the bisulph. carb. was given, the vomiting and purging ceased, and she recovered Sept. 24.

Case 33.—William Hardy, aged 3, of 7, Camden-street, Walworth, was attacked Sept. 21; the bisulph. carb. was given, the vomiting and purging ceased, but afterwards returned, and he died Sept. 22.

Case 34.—Sophia Roberts, aged 23, of 29, Portland-street, Walworth, was attacked Sept. 25; the bisulph. carb. was given, the vomiting and purging ceased, and she recovered Sept. 28.

Case 35.—William Barter, aged 39, 14, Grove-street, Walworth Common, was attacked Sept. 27: the bisulph carb. was given, and he recovered Sept. 29.

Case 36.—Mary Flight, aged 67, of 12, Trafalgar-street, Walworth, was attacked Sept. 25; the bisulph. carb. was given, and she recovered Sept. 28.

Case 37.—Jeremiah Minard, aged 26, of 29,

Portland-street, was attacked Sept. 24; the bisulph. carb. was given, and he recovered Sept. 26.

Case 38.—Silena Pople, aged 10, of 9, Camden-street, Walworth, was attacked Sept 30; the bisulph. carb. was given, the vomiting and purging ceased, but afterwards returned, and she died Oct. 2.

Although I recommended the bisulphate of carbon to be administered in minim doses every hour, I believe better and speedier results would have been obtained by three minim doses every quarter of an hour. This uncertainty is a disadvantage which attends the introduction of all new remedies. The re-action which this agent induces in the stage of collapse, cannot, I think, be ascribed to its stimulating powers, as all stimulants hitherto employed—however large the dose—have failed in their object. In some cases its effect has been so rapid, that nothing less than the destruction of the choleraic poison could account for it, and—as its chemical composition shows—it cannot do so by supplying the blood with the salts it has lost. The exhibition of calomel and other agents with the bisulphuret of carbon, by occasioning its rejection from the stomach, checked, I am convinced, in some cases, its beneficial action. Whether it will be found as generally useful as it has been proved to be in the foregoing cases, or more so, a few weeks no doubt will determine.

The following case has just reached me from Dr. Fairbrother, of the London-road, Southwark:—

Case 39.—Oct. 12.—A little boy, aged 8 years, of 4, Jonathan-street, Vauxhall, was attacked with cholera, Oct. 11th, and speedily went into decided collapse. A dose of calomel and opium was administered, and a few doses of a mixture containing sesquicarbonate of ammonia. When seen by me, he was blue, cold, and almost pulseless. A hot wet blanket was applied, and a tablespoonful of the following mixture was given every hour:—℞. Carb. bisulph. ♏ x., magnes. carb. gr. xx., aq. destill. ℥vj. M. The patient rallied after the third dose, and is now in a fair way of recovery.

Albemarle-street, October 16, 1849.

PROGRESS OF MEDICAL SCIENCE.

SCOTLAND.

[From our Edinburgh Correspondent.]

Since the several recent schemes for Medical reform have been under agitation, many of our brethren in Scotland have publicly expressed an opinion, that penalties against quackery should form no part of any new legislative measure for the improvement of the Medical Profession. They are for allowing the public a free choice between the avowed quack and the regular practitioner; they would have no coercion exercised over the public mind, when the bodily health is concerned, any more than in matters spiritual. They think the prohibition of quackery by Act of Parliament, at the instance of the Medical Profession, is as bad as State-intolerance in religion, or the custom of thirlage in agriculture. They would reject a protection which might be branded with the odious name of monopoly. Their scheme is, to leave the public the suicidal liberty of employing avowed quacks, while they propose only to inflict penalties on unlicensed practitioners, who assume the designations of regular Medical men.

It seems pretty plain that such sentiments are fully more prevalent in Scotland than in England, whether it be owing to the principles of universal toleration having taken deeper root here, or, what is more likely, owing to quackery being less luxuriant in the poorer soil of Scotland than in England, where it feeds on the fat of the land.

But, while it may be a wise and proper sentiment to say, that penalties against quackery should form no part of a legislative measure of Medical reform, and that the Medical Profession should not be called on to act the unpopular part of informers and prosecutors against the bare-faced impudence of quackery, it may be a failure of duty in the Medical Profession to permit the public to think that quackery is not so criminal as to merit coercion and punishment. The case, then, stands thus: the Medical Profession, as a body, are unquestionably of opinion that hundreds of lives are annually sacrificed, in the United Kingdom, to the Mammon of quackery; but it is not expedient, that in a case where they may be suspected of having an eye to their self-interest, that individual Medical men should be made the instruments by which these criminals should be brought to justice. But, surely it belongs to every Government, that seeks to deserve the character of being paternal, to take the necessary steps to put down the murderous nuisance of quackery as much as any of the offensive pestiferous nuisances of which so much is heard at present. Is it, however, really a matter of certainty that it is in the power of a Government to take effectual steps to put down quackery? The stamp-duty on patent medicines might be taken off. But what would be gained by that? As dangerous drugs might be sold even more freely than before. The Government might, however, refuse to authorize any drug of a very dangerous character without the production of evidence that the directions for using it were at least generally safe. There can be no objection to harmless drugs being sold even with the Government stamp. It is idle to think of forcing men to subject themselves to regular treatment. It is enough to prevent the unprincipled from putting them in jeopardy for the sake of gain. The homœopaths are secure against falling into this criminal position as long as they stick to their infinitessimals. They do not kill—they are merely chargeable with letting men die who might otherwise be saved. But what should a paternal Government do against the rash practice of self-taught hydropaths, or of such sects as that whose talisman is a narcotic poison like the lobelia? For both undoubtedly kill—notwithstanding that each employs a treatment of excellent service in judicious hands. Recent instances show how difficult it is to obtain a conviction, even with the most palpable evidence of death being the result of the treatment. In the case of Dinah Toothill, recently reported, as tried before the Coroner at Keighley, a prudent man might decline to pronounce on oath that the woman actually died of the savage treatment to which she was subjected; but no intelligent medical man will hesitate to say that hundreds of persons, under the like circumstances, would have lost their lives, had they been made to stand as long on the floor, naked, four times a day for a week, while cold water was kept pouring over the body; and had this out-Heroding of the cold affusion been terminated by the person being kept wrapped in a wet sheet for half an hour more, and, as if this were not sufficient, had two additional applications of cold water to the head been made in the night during the same period. Though the woman who was subjected to this treatment was menstruating at the time, the jury returned a verdict "died by the visitation of God." That hydropathy, in the hands of persons who understand something of the fragile nature of the living body, is capable of producing occasional good effects, we make no doubt; but if the rash and ignorant (and who but they will venture on such a step) be permitted to take up this practice, and to apply it as their sole remedy to all diseases, and in all their stages indiscriminately, how is it possible that death should not often be the result? It appears, that hydropathy is already discovered to be a profitable field by those who have to live by their wits. There is already an organization in the corps of unlettered Hydropaths—there are General Practitioners and Consulting Hydropaths; for, in the case just referred to, the active Practitioner, seeing the more he pushed the remedy the worse the patient grew, desired a consultation, and the Hydropathic consult judiciously advised the water to be made warm—but it was too late.

The verdict in this case, however honestly given, undoubtedly offers a premium on the adoption of similar dangerous modes of treatment by weak or unprincipled people, for the sake of notoriety or gain, as the case may be; or, what is even more to be dreaded, out of a would-be benevolent motive, which shuts the eyes to the folly that is committed. A recent instance occurred in Scotland of the fatal consequences of amateur interference in Medical practice, where there was no suspicion of any other motive but an ill-devised benevolence. In this case, the patient had been affected for two or three weeks with acute rheumatism; several joints were involved; there was very considerable attendant fever, and latterly great frequency of the pulse. He was under the care of a regular Practitioner; nevertheless, an amateur Hydropathist, a person in a respectable line of life, altogether unconnected with the Medical Profession, contrived to get access to the patient, in the doctor's absence, and wrapped him in a wet sheet; the consequence of which was, his death in a few hours. The *post-mortem* examination proved, that the heart, the brain, and other internal organs, were free from disease; and, as death took place so shortly after the application of the sheet, little doubt could exist in the minds of Medical witnesses as to the immediate cause of that result. The amateur was not brought to trial, yet he suffered no slight penalty, having been apprehended, kept for some time in prison, and finally liberated on bail, without any assurance that he may not still be brought up to answer for his rashness. The only favourable point in this case is, that what he did was plainly with no purpose of gain. Though this case has never come before the public, we have reason to know, that the particulars given of it in the *Monthly Journal of Medical Science* are correct.

Were a computation made of the probable number of persons who yearly fall victims to benevolence of this sort, in all manner of forms, it could not but appear expedient for our legislators to consider how far it is practicable to provide a special Act, forbidding such interference, under appropriate penalties. For it seems hopeless to anticipate any conviction for offences of this kind in the common course of justice. In the mean time, the less that either this interference, dictated by a would-be benevolent motive, or the practice of unprincipled quackery, is made a subject of agitation by the members of the Medical Profession, the more likely is it that the evil will be taken up by the intelligent public. The members of the Medical Profession are regarded as interested parties, and they will not be listened to unless their testimony be confined to simple statements of fact, wholly unaccompanied by passionate comments. And it is especially necessary that medical witnesses should speak guardedly when their evidence is taken judicially in cases involving the charge of manslaughter by the ignorant application of powerful remedies.

Cholera is now decidedly on the decline here as in London. It is already upwards of a year since it broke out in Edinburgh, but during that period there has been an interregnum of several months. The revisitation dates from the beginning of August, and it has been by no means so severe as the disease was in the first months of its attack, and, altogether, very few persons beyond those of the very lowest condition have fallen victims to it here during the whole term of its prevalence. There has been a good deal of bowel-complaint of an ordinary character, and much choleraphobia, which last, in timid and nervous people, has been the source of considerable impairment of health.

On Tuesday the 9th current, Dr. Day was elected unanimously to the Chandos Professorship of Medicine in the University of St. Andrews. Professor Syme, it is expected, will be the new President of our College of Surgeons, Dr. J. A. Robertson declining to be re-elected on account of the state of his health.

IRELAND.

THE ALBERT UNIVERSITY. QUEEN'S COLLEGES IN IRELAND.

(From our Dublin Correspondent.)

We perceive, by the public prints, that it is in contemplation to establish a new University in Ireland, under the Chancellorship of Prince Albert. It is said, that the Senate of this proposed University will consist of sixteen or seventeen persons, to be appointed, in the first instance, by the Crown, and that no one belonging to the Queen's Colleges, with the exception of the three Presidents,

are to be permitted to take part in its proceedings. The duties of the Senate will be to regulate the curricula necessary for graduation in arts, medicine, and law; to appoint Examiners; and to hold sessions or commencements for the conferring of degrees. We presume, that the right of presentation to the junior and senior scholarships in the various Colleges will also be vested in this Senate. This new University is to have a house in Dublin, in which city all final examinations are to be held, and degrees are to be granted. It is further rumoured, and, indeed, this rumour has taken a semi official form, that the Irish executive has received a communication from the Prince Consort, expressing His Royal Highness's opinion, that such an arrangement as that above described is necessary, to prevent the new Colleges becoming nests of jobbery, corruption, and sectarianism.

Yet we feel a difficulty in reconciling these rumours with the very detailed and positive announcements proceeding from the Queen's Colleges (a). We can understand that the regulation of the hours of lecture, the amount of fees, and other matters connected with the administration of the new Colleges, should be legitimately the business of the Presidents and Vice-presidents of those Institutions; but, if these Colleges do not possess the power of conferring degrees,—that power being destined for a fourth, and not yet existing corporation,—it is manifest that everything relating to those degrees must proceed from an authority essentially extra-collegiate. The Presidents and Vice-Presidents, in conclave assembled, have drawn up curricula, settled the amount of graduation fees, decided on the minimum course of reading necessary for matriculation; and, we suppose, that there can be no doubt that their regulations received the sanction of the Government previously to publication. We cannot believe that the Presidents and Vice-Presidents have wittingly assumed an authority unsanctioned by the Charters of the Colleges over which they preside; and have recklessly announced a programme of education, as definitive and positive, which is nevertheless liable to be modified to an unlimited extent, by the only body, which, according to the hypothesis, would have a right to its imitation. To entertain such a supposition would be to credit that the Presidents and Vice-Presidents had knowingly insulted, because usurping, by anticipation, the functions of that Royal University, under whose control the colleges which they represent are about to be placed; and to imagine that those gentlemen are capable of practising a delusive hoax on the students of the United Empire, by presenting a cheap and easy bill of fare, in the shape of a curriculum, which, they well know, is totally destitute of any real validity. We cannot suppose for a moment, that the gentlemen alluded to, for the mere purpose of swelling the classes at the various Colleges, would be guilty of an act of such mockery and delusion; nor can we attribute the wickedness and folly of sanctioning it to the Government.

The fact, we believe, is, that some very gross blundering is being practised with respect to these new Colleges. We consider it to have been a great blunder to attempt converting these Colleges into Medical Schools, for which they are totally unfitted, from the want of subjects for anatomical purposes, and of Hospitals for clinical instruction; and multiplying the number of Professors, has obliged such a reduction of their salaries, that few men of any eminence or reputation have thought it worth their while to accept situations to which such mean remuneration was attached.

Since writing the foregoing we have met with a document, purporting to be a "Minute passed by the Board of Queen's Colleges," from which it would appear, that the regulations under the title of the Statutes of the Queen's Colleges in Ireland, have not yet received the sanction of the Government. We subjoin this "Minute":—

"Queen's Colleges.

"*Minute Passed by the Board.*

"Resolved,—That a Copy of the Statutes of the Queen's Colleges, now finally amended, be forwarded to His Excellency the Lord-Lieutenant.

"That the Board of Colleges avail themselves of this occasion to express to the Lord-Lieutenant their most sincere and respectful thanks for the gracious confidence with which he has honoured them throughout their protracted deliberations; for the extraordinary labour to which His Excellency has so frequently subjected himself in considering the multiplied collegiate questions brought under his notice by the members of this Board and others; and for the uniform and cordial support he has extended to the Queen's Colleges.

"The Board would more particularly refer to the inestimable aid these Institutions have received from the manner in which the recent selection of Professors has been made by his Excellency; from the patience and sagacity with which the claims of so many applicants have been investigated, and from the impartial justice which, in so large a number of appointments, has regarded only the merit of the candidate.

"The Board have seen, with grateful satisfaction, that all considerations of political patronage and personal favour have given way before the determination to confide every department to the man best qualified to fill it; that the Queen's Colleges have thus been placed in the foremost rank of Educational Establishments, and have already obtained that public confidence so essential to their success.

"The Board beg leave to express their confident belief, that the eminent men with whom the Colleges are provided, will enable them to fulfil the benevolent end for which they were founded; and that the speedy diffusion of a sound and useful education among the higher and middle classes of her people will not be the least of the advantages which the country will have derived from the administration of the Earl of Clarendon."

(a) The publication of the Regulations of the Queen's Colleges has been postponed this week from a great press of matter.

Complaints having reached us of the irregular delivery of the Medical Times *in the country by the Booksellers and Newsmen, we state, for the information of our readers, that this Journal is always published early on Friday afternoon, so that it may reach the Provinces by post on Saturday morning.*

Correspondents are requested to address their Communications to "The Editor of the Medical Times, 147, *Strand."*

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THE MEDICAL TIMES.

SATURDAY, OCTOBER 20, 1849.

The appearance lately in our columns of the Introductory Lectures delivered at two of the largest Medical Schools in the Metropolis, has recalled to mind our Articles on Rationalism and Empiricism. In writing these Articles it was our endeavour, as it appears to have been the endeavour of Professor Walshe, to indicate the true foundation on which the science of Pathology is built, and to point to the method by which the fabric, based on that foundation, might be securely raised. The extreme importance of the subject—the erroneous opinions which have prevailed concerning it—the doubts which have been expressed even in high quarters, as to our right to claim for this branch of medicine the rank and title of a science, induce us now to recur to the topic.

The argument which Dr. Walshe(a) has presented to us may be thus expressed. All sciences are formed by the observation of individual phenomena—by the discovery of the mode of succession of these phenomena—and by the foundation, through induction, of the laws which govern them. As each science is merely distinguished from another science by the speciality of the phenomena on which it is built, if it can be shown that the phenomena, which are the subject-matter of any inquiry, are of a special and distinct character, are different from those whose observation, collocation, and classification form other sciences, then there appears to be no reason why the term science should not be conceded to the aggregate of these special and peculiar phenomena.

Now, Dr. Walshe affirms, that the phenomena of Pathology *are* special and distinct—that they arise out of, and indicate a substratum, which is identical with no other in the whole system of organized life—that they are to be known only by complying with the single condition on which human knowledge is possible, viz., by observation; and that the attempt to determine their existence, much less to explain their nature, by extending to them the observations, or by applying to them, without modification, the laws, which have been deduced from any other series of phenomena, however closely allied to them such phenomena may be, is manifestly illogical, and, indeed, impossible.

The correctness of this view is so evident, that it appears strange it should ever have been doubted. It is no doubt true, that the phenomena we are called upon to note at the bedside of the sick, have their analogies and similitudes in the phenomena which we may note in a perfectly healthy person. But that the two series of phenomena are not the *same*, are not *identical*, is evident from this fact, that, in disease, certain additions are made to the normal processes of life—certain elements are thrown in, whose mutual action and re-action on each other, and on the elements with which they intermingle, *must* be different from those processes; and, by the very law of human knowledge which compels us to observe, cannot be foretold or predicated by any acquaintance, however perfect, of what had occurred previous to the introduction of those foreign elements. Evidently it would be as impossible for the most accomplished Physiologist to tell us, *à priori*, what would be the result of throwing in among the normal elements of the body such an agent as the virus of small-pox, as it would be for the chemist to tell, previous to observation, what would be the effect of adding sulphuric acid to a barytic solution. This first and fundamental position is put forth, by Dr. Walshe, with great force, and with a certain vehemence, as if he knew the importance of vindicating earnestly the claims of Pathology to the rank of an inductive science.

But yet the great question of the day remains behind. What exact relation, then, do the cognate sciences, and especially Physiology,

(a) The Lecture of Dr. Walshe has been published separately, by Messrs. Orr and Co., Paternoster-row.

bear to Pathology?—what light will they throw on Pathology?—and to what extent will they aid us in the unraveling of this complex web of life which physical and vital forces so inextricably interweave?

The answer to this question is, to a certain point, determined without difficulty. Physiology assists in the study of Pathology in various ways. It supplies, first, the necessary standard of comparison. We must know the normal before we can perfectly indicate the abnormal; the one is indispensable to the comprehension of the other, although it is not this other. Secondly, Physiology, and the cognate sciences generally, aid Pathology, by affording to it the appliances and means by which its phenomena may be recognised. Physiological and chemical *phenomena* cannot, it is true, *suggest* to us pathological phenomena; but physiological and chemical *manipulations* are often the only means by which we can *detect* these phenomena. In proportion as Physiology and Chemistry perfect their own methods,—in proportion to the clearness of the microscope, the fineness of the balance,—will be the minuteness and the accuracy of the process by which one pathological phenomenon is defined and isolated from another. Thirdly, these collateral sciences may aid pathological inquiry by the suggestions concerning abnormal conditions which the discovery of the normal laws may give us. These powers and functions of Physiology, in respect of Pathology, have been emphatically recognised by Dr. Walshe.

But beyond this, still, does not Physiology bear to Pathology a deeper relation? Is it not necessary for the explanation, for the due arrangement, for the systematic grouping of pathological facts, that the laws which rule the analogous series of physiological facts shall be known? Is not the inquiry into Physiological laws, the simple, the primary, the necessarily antecedent problem which must be solved before we can determine the connexion of those more complex and intricate phenomena, which are, as it were, in a certain sense, aberrant and wandering physiological conditions? In the same way, as it is necessary to decide the anatomy of the normal tissue, before we can perfectly determine the anatomy of the abnormal tissue; so, is it not necessary to determine the nexus, and to fix the classification of physiological phenomena, before we can safely attempt to bind up pathological phenomena in a similar arrangement? In a certain sense, is not Physiology a *basis* to Pathology, or, at least, to the highest and most perfect parts of it? It is plain, that, even here, we do not abandon our groundwork of observation. Pathological phenomena must ever be observed, can never be divined; but when observed, can we wring their most hidden consequences from them without a knowledge of the normal conditions from which they are an offshoot and a deviation?

It is thus, as we formerly took occasion to point out, that as Pathology and Physiology expand, the radii passing from the proper and independent centres of each, impinge on each other and intermix. By this mutual impression, each imparts to the other something of its own virtue, illuminates the other with its own light; Physiology suggests the laws which may govern Pathology, and Pathology by the very aberrations from physiological laws which it exhibits, illustrates the truth of these laws, or points out the errors which infect them. The extent to which this can, as yet, be done, is a most interesting topic, and we would gladly hear the eloquent Professor of University College enlarge on this head more fully than his short lecture hour could permit.

The excellent Oration of Professor Farre(a) discusses some of the causes which have retarded the advance of medical science. As connected with the employment of the inductive method, Dr. Farre points out the extreme intricacy of the phenomena,—their rarity,—the difficulty of witnessing them except in portions,—the interference of vital with physical laws, of animate with inanimate matter, as some of the chief causes inherent in the subject itself, which have delayed its elucidation. But we cannot agree with Dr. Farre, that these difficulties which certainly impede the application of the inductive method, should induce us to apply it "*less strictly*." On the contrary, in proportion to the intricacy of the subject, should be the vigour of the method. Not *less* strictly, but *more* strictly should we make our researches when the subject baffles us. Is the labyrinth darker and more bewildering? the firmer must we hold to the clue which alone can track its devious paths.

And that it is by the use of the inductive method, as taught by Lord Bacon, that the science of Pathology, as all human sciences, is to be advanced, no one, who reflects sufficiently on this subject, can for a moment doubt. It is, indeed, a matter for great rejoicing that this opinion is gradually gaining ground; and that the modern British school of Pathology promises to be as laborious in observation, as prudent in induction, and as cautious in conjecture, as become the earnest followers of the great master of modern philosophy.

(a) Since published by Mr. Churchill, Princes-street.

THE COLLEGE OF SURGEONS IN DANGER—PROSPECT OF A REVIVAL OF DIVINE DOCTORS.

In this age of wonders, we are hardly surprised at any discoveries that are made. The spirit of investigation appears not to be confined to the Medical Profession; for barristers, without the aid of the microscope, sometimes find out, in legal documents which the wisdom of our forefathers have bequeathed us, forensic curiosities. The sharp-sightedness of lawyers has always been proverbial; and the exact meaning of a Parliamentary enactment is never known till it has been subjected to a lengthened and searching scrutiny from those who are technically called "gentlemen of the long robe." Laws, therefore, which were intended to be specific and decisive, have become, by the learned ingenuity of their expounders, the most uncertain of all uncertainties. By means of forensic eloquence, astonishing metamorphoses have been produced. Criminals, treble-dyed in guilt, have been made legally to appear immaculately pure; the rigid deductions of science have been turned into falsehoods; and the best titles to property or privileges have been proved to be worthless.

It has been generally thought, that the Charter of the Royal College of Surgeons of England conferred upon its members certain privileges; and amongst them, that of recovering any reasonable sum for attendance upon a surgical case: the acumen of a young lawyer of the Middle Temple, however, has recently detected such a flaw in the Royal document which gave the Corporation of Lincoln's-inn-fields existence, as precludes its members from obtaining fees from patients, with broken bones or dislocated joints, indisposed to pay.

Mr. Howard Fellows is the learned barrister who has made this notable discovery; and he has given it as his opinion, that members of the College are not *legal* surgeons. First, because they have not been examined by the Bishop of London and the Dean of St. Pauls; and 2nd, because they are not licensed under the Act of George II. We extract from a Contemporary a case and an opinion.

"CASE.

"Messrs. W. and S. are General Practitioners, having passed the College and Apothecaries' Hall, and having the usual license from the latter body. They have been professionally employed by Mr. R. to set a broken leg, which they did, and afterwards applied for their charges, but the claim was resisted, because as R. in a letter to them says—'you know you are not licensed as surgeons, and therefore cannot make me pay; nor will I do so unless you make the above deductions from your bill, which, as it stands, I consider unreasonable.' Messrs. W. and S. thinking their charges fair, have issued a writ for the amount; but before incurring further expense wish to know whether any license is necessary, because if it is, there is no doubt but that R. would take advantage of the want of one. Messrs. W. and S. have never heard of any license for a surgeon, or that any one who had passed the examinations was not fully entitled to practise. It is assumed that the Apothecaries' license has nothing to do with surgery, and that they could, at any rate, recover for the medicines supplied during the process of the cure."

"OPINION.

"It is not stated when the attendance took place; but, as will be presently seen, that does not make much difference. At common law no license of any kind was necessary for a surgeon, and, consequently, ignorant persons were in the habit of practising. To prevent this it was enacted by 3 Hen. VIII. c. xi. sec. 1, that 'no person within the city of London, nor within seven miles of the same,' should practise surgery except he be admitted by the Bishop of London, or Dean of Paul's; and by sec. 2, 'no person out of the said city and precincts of seven miles' shall so practise unless he be approved by the Bishop of the diocese. There are, however, two exceptions to this rule. The first (within which the plaintiffs do not come) is contained in the 34th and 35th Henry VIII. c. viii, which allows any one to practise gratuitously without a license; and the second in the 18th Geo. II. c. xv., sec. 8, which authorises persons licensed by the Company of Surgeons to practise 'throughout all and every His Majesty's dominions.' The examination by the College (which is a different body from the Company) of Surgeons is merely voluntary, and as not passing it works no disability, so passing it confers no legal rights. Unless, therefore, the plaintiffs are licensed under the Acts of Henry or George, they cannot recover (Cope v. Rowlands, 2 M. and W. 149, where it was held that an unlicensed broker could not sue for his commission), and must therefore take what the defendant offers, as by bringing their action they would probably lose all: they clearly could not compel payment, even for the medicines, for they were used as ancillary to a surgical case (Alison v. Haydon, 4 Bing. 619), and not supplied by the plaintiffs as apothecaries, but as surgeons. "THOS. HOWARD FELLOWS.

"1, King's-bench-walk, Temple,
Sept. 6, 1849."

We have, in consequence of this opinion, considered it necessary to examine the several documents referred to, and we have also consulted some of the authorities of the College of

Surgeons intimately acquainted with the events which led to the granting of the Charter by Geo. III.

There can be no doubt that the Bishops formerly exercised the privilege of examining and licensing Practitioners both in Medicine and Surgery; and that, while Henry VIII. took from the Episcopal bench the authority to make *Physicians*, he did not interfere with the Bishops' rights as regards *Surgeons*. The Act of Geo. II., however, (in 1745,) not only brought into existence the Corporation of Surgeons; but gave it authority to examine persons; and passing this examination they became entitled to practise, without let or hindrance, the art and science of surgery throughout all His Majesty's dominions, notwithstanding any law or custom to the contrary. It is evident, that by this Act, the power of the Bishops to license Practitioners in Surgery was taken away, and so long as the Corporation existed, that power could not be recovered. But, Mr. Howard Fellows' opinion is based upon the supposition, that the Corporation of Surgeons is defunct; and that the present College never having had an Act of Parliament passed in its favour, is a different Institution, and, therefore, cannot enjoy the same privileges as that which George the Second founded.

A curious circumstance at the close of the last century led to the dissolution of the old Corporation. The Act of Parliament required certain duties to be performed on a certain day, by certain of the Corporation officers. When the day arrived for the meeting of these officers, one was laid up with an attack of gout, and another, we believe, was labouring under paralysis. There was, in consequence, no meeting, and the Corporation was generally considered as having become defunct.

It was, therefore, deemed necessary that a new Charter should be issued; and, in the year 1800, one was granted "to James Earle and unto all the Members of the said late Company or Corporation of Masters, Governors, and Commonalty of the art and science of Surgeons of London, having been admitted and approved Surgeons within the rules of the said Company." It is evident, therefore, from this passage, that it was the intention of the then Government to revive in the College the defunct Corporation of Surgeons, and to invest the former, as far as possible, with all the privileges of the latter. Upon this point, the Charter of George III. says, "And it is our further will and pleasure: and we do hereby, so far as we lawfully can or may grant and ordain, that the said Royal College of Surgeons hereby incorporated shall and may exercise and enjoy all and singular other the gifts, grants, liberties, privileges, communities, and possessions real and personal, and whatsoever and wheresoever, herein before mentioned, or by any Act or Acts of Parliament, or by any Letters Patent, of our Royal predecessors, Kings and Queens of England; given, granted, and confirmed unto, or otherwise lawfully acquired by, and belonging to the said late Master, Governors, and Commonalty of the art and science of Surgeons, or any of them, and not hereby altered, taken away, changed or abridged, made void, or annulled." If this Charter have any virtue in it, then we conceive it not only gives Members of the College a legal right to practise, but a legal power to receive a reasonable sum for their attendance upon surgical cases.

The force of Mr. Fellows' argument rests upon the supposition, that a Royal Charter cannot confer the same privileges upon a new Corporation as were enjoyed by one defunct, although the new Corporation may be composed of the same individuals, and may be established for the same purposes as the old one. Hence he cites the case of the unlicensed broker, and views the Members of the College in the same predicament, not having gone before the Right Reverend Bench of Bishops to obtain licenses to practise surgery.

The power of the College having been questioned, doubtless it will soon be tried in a court of law; but, whether this be the case or not, we see additional necessity for a speedy settlement of the question of Medical reform. A pretty thing, forsooth, for Surgeons to be placed under episcopal authority—and for the country to be threatened with a new race of Divine Doctors! Mr. Howard Fellows is evidently a sharp-sighted lawyer; he has emerged from obscurity, and it may be, has taken the first step towards the woolsack!

THE CHANDOS PROFESSORSHIP AT ST. ANDREW'S.

Dr. Day has received the appointment of Chandos Professor in the University of St. Andrews, lately become vacant by the decease of the lamented Dr. John Reid. We do not know of any public appointment which has been lately made, that has given us more sincere gratification. Not simply that we are pleased at seeing a man so universally esteemed as Dr. Day appointed to this chair, but also because such an appointment is an indication that the Medical Corporations are beginning to drop their exclusiveness, to lessen their restrictions, and to choose the best person for the vacant post. It would, indeed, have been tantamount to a setting aside of all scientific claims, if the Editor and illustrator of Simon and Vogel, the translator of Rokitansky and of the Cavendish Memoirs, the well-known Chemical teacher, who has, perhaps, done more to make his countrymen acquainted with the application of Chemistry to Pathology than any other man, had been unsuccessful. It would have been indeed discouraging if these eminent services had been counteracted by local interest, or disregarded by party or national feelings. As our readers are aware, several candidates opposed Dr. Day, but universal opinion stamped him as best entitled to the Chair.

We congratulate the authorities of St. Andrews on the confirmation which their election gives to general opinion.

THE COLLEGE OF PHYSICIANS AND THE "FUNGUS THEORY" OF CHOLERA.

We have been informed, on undoubted authority, that a Report is to be published during the ensuing week by the Cholera Committee of the College of Physicians, containing observations which throw considerable discredit on, if they do not entirely put aside, the hypothesis that Cholera depends on the presence in the intestinal canal of the so-called "Cholera fungus." We hope to be able to obtain in time for our next Number, at least the most important facts contained in the Report.

REVIEWS.

1. *Malignant Cholera, its Mode of Propagation and its Prevention.* By Wm. Budd, M.D., Physician to the Bristol Infirmary. 1849. Pp. 30.
2. *On the Mode of Communication of Cholera.* By John Snow, M.D., Lond. 1849. Pp. 31.

In the pamphlet which heads our review, Dr. Budd has presented us with a repetition and an amplification of his views on Cholera, already made known in the letter which appeared in the columns of the *Times* newspaper. Many portions of the pamphlet are copied from the letter; other portions are new, and are brought forward in confirmation or in explanation of the more doubtful points. We need scarcely remind our readers of the general tenour of Dr. Budd's opinions. It will be remembered that Dr. Budd adopts unequivocally the view that Cholera is the result of the rapid development within the alimentary canal of a species of fungus; that this fungus finds its way into the canal only by swallowing, and that after multiplication in the canal and discharge therefrom, it is disseminated through the medium of the air, or by adhering to articles of food, or by finding its way into the water, which may subsequently be used for drinking.

To these views we took occasion to object in a late Number, that, however true they might be, the basis of facts on which they were founded was by no means so broad and so comprehensive as to warrant Dr. Budd's conclusions, or to lead us to do more than consider his opinions as an ingenious hypothesis, which might or might not be more or less correct. The perusal of Dr. Budd's pamphlet has not induced us to change our opinion, and we shall not scruple to express our conviction of the doubtfulness of much of Dr. Budd's reasoning.

In the first six or eight pages of his pamphlet, Dr. Budd describes the general appearance of the organic corpuscle, which has been called "annular body" by Dr. Brittan, "Cholera cell" by Dr. Swayne, "loimodic cell" by the contributor of some able articles on Cholera to the daily *Times*, and "Cholera fungus" by Dr. Budd himself. This description need not detain us, as it is not different from that already given in our columns. After stating that he has invariably found these "organisms" in the sediments of the rice-water discharges, and especially in those of a dirty white colour, (which, by the way we may remark, is somewhat remarkable, seeing that the pure white sediments, in which these organic corpuscles are said to be smaller and less abundant, are more common in the intensest cases,) Dr. Budd proceeds to make his first assertion, viz., that the "organism" is in some way essentially related to malignant Cholera. He supports this by the following considerations:—

"1. By the characteristics of the thing itself, which, by showing it to be possessed of a complex organisation, having a definite mode of development, a specific form and spontaneous power of growth and multiplication, stamp it at once as being of distinct species.

"2. By its constant presence in cases of Cholera, and its absence (with a few casual exceptions, in which a small number of stray bodies of similar character are found) in other diseases.

"3. By its presence in the discharges in such infinite numbers.

"This last consideration, when taken together with the two former, is very striking. For assuming the thing itself to be, what it is here asserted to be, a definite living organism, and therefore of extrinsic origin, it becomes impossible to conceive that its presence in such countless numbers in the 'rice water' can be a matter of chance, a mere incident, an epiphenomenon, or anything in fact short of an essential character of the disease; and if essential,

many other considerations are at hand to declare that the relation thus inferred to exist, can only be one of cause and effect." (P. 8.)

It appears to us sufficient merely to read this passage, in order to detect the numerous assumptions made in it. The great assumption, on which hinges all the rest, is the constant presence of these organisms in cholera evacuations, and their absence in all other diseases. But can either of these propositions be, for a moment, considered as established? How many cholera evacuations, how many discharges in other diseases, have been microscopically studied? Can Dr. Budd himself supply the hiatus in direct observation which is presumed to exist? If he cannot, he ought not to venture on an assertion of such importance. In the fluid stools of typhoid fever, for example,—in the loose, dark evacuations of bilious diarrhœa,—not to speak of other diseases,—there is so great a variety of microscopic cell-forms, which have as yet received no full description, that we have no hesitation in refusing to allow any value to two or three negative observations. But even if those bodies are constantly present in cholera discharges, and are absent in all other cases, we are still indisposed to admit the truth of Dr. Budd's other assumptions, that because those bodies are of complex organization, and because they exist in great numbers, therefore they stand in the relation of cause to cholera. These bodies are not more complex than the torulæ which form in fermentation; they are not more numerous; they are not more constant; and yet the yeast-plant is, as we formerly remarked, merely an index of the profound changes it accompanies, and by no means their cause. And we may observe, that the rapidity with which these low forms of life are called into being in their appropriate nidus is quite wonderful; the exudation which in the night forms on the mucous membrane of the mouth of the patient with typhoid fever, in the morning may be found pierced in all directions by the branching cells of a cryptogamic plant, and in the yellow matrix of Favus the consecutive fungus spreads not less rapidly into development. Against such an error as that of confounding a consequence with a cause, we cannot be too careful, if we are dealing with these organic forms, the facility of whose birth is paralleled only by the rapidity of their decay.

But Dr. Budd adduces some other considerations in support of his hypothesis.

As these organisms exist in myriads in the cholera discharges, and as they are not introduced in such numbers, they must be developed within the intestine. In such development, says Dr. Budd, they must require nutriment; and in what other source, except in the fluids of the body at large, are we to find the materials for their increase?

"I need scarcely say," continues Dr. Budd, "to those who have watched the course of inquiry on this subject, that the drain of fluid which is here implied is exactly what chemical analysis has shown to be the cause of all the phenomena comprised in the state of collapse."—P. 9.

Here, it appears to us, is another assumption. Can it be for a moment maintained, that chemical analyses have yet been made in sufficient number to establish this most important doctrine, that the collapsed symptoms of cholera are in the ratio of the discharges, and of the increased spissitude of the blood. So far, also, from its being the case that this doctrine has been developed by the progress of inquiry, it was positively the original view espoused by O'Shaughnessy, though qualified by him in such a manner as almost to be surrendered.

Dr. Budd further attempts to strengthen his position by the additional considerations which he seems to consider proved, viz., that the fungi are constantly found in the air and water of infected districts.

Up to this point the argument stands thus:—

It is *assumed*—

1. That the peculiar bodies are fungi.
2. That they exist constantly in cholera discharges, and not elsewhere.
3. That by reason of their complex organization, and of their number, (taken with their invariable presence,) they must be the cause of cholera.
4. That as the fungi are introduced in small numbers, and are voided in myriads, they must be increased within the body, at the expense of that body's fluid; the drain of fluid thus resulting produces all the other symptoms.
5. That the constant presence of the fungi in the air and water of infected districts affords evidence confirmatory of these inferences.

Now, each of these propositions is individually doubtful. Can the aggregate of them give certainty? Each by itself is, and must, for some time, be intrinsically weak. Can the combination of them give strength? Is it possible that the mere addition of probability to probability, or possibility to possibility, can evolve a demonstration; that the whole can possess qualities which are not furnished to it by its parts? Can that, which of itself, has no solidity, be reared aloft by props which themselves have no firm basis, but lend to each other a vague and unstable support? True; a certain probability may in this way be given: an hypothesis may be formed, a mode of investigation may be indicated, but immaturity and uncertainty must characterise the opinion until experience has stamped it with its indelible sign of truth.

Another opinion entertained by Dr. Budd is not absolutely necessary to the integrity of his hypothesis, but it is to the treatment founded upon it. This is the opinion, that the human intestine is the sole breeding place of the fungi.

Stripped of the reasoning, often ingenious but rarely sound, with which Dr. Budd surrounds his argument, we find his naked positions to take this form:—

The cholera fungi breed *only* in the human intestine—

1. Because they certainly *in part* breed there.
2. Because they are larger and more developed there.
3. Because they have not been discovered elsewhere, with characters indicating a process of development.
4. Because the mode of diffusion of cholera accords with such a mode of propagation.
5. Because such a mode of propagation is sufficient to account for the diffusion of the disease.
6. Because the lower animals are not attacked.

The two first positions prove nothing; the third is founded on insufficient evidence; the fourth and fifth give us a good example of reasoning in a circle; and the sixth is erroneous.

Dr. Budd then passes on to consider the mode of diffusion of cholera. He here adopts, without reserve, the opinions of Dr. Snow, which, however, like his own, can be regarded only as suggestive, and not as absolutely proved.

Dr. Snow believes that cholera is contagious in the true sense of the word,—viz., that a sick person can communicate the disease to a healthy person; but this does not occur, as usually supposed, through the medium of the atmosphere, but through the instrumentality of water, into which the evacuations of cholera, which Dr. Snow supposes to contain the specific cause, have somehow or other been introduced. Dr. Snow was led to this view by the consideration, that the early symptoms of cholera did not resemble those consequent on the introduction of febrile poisons, in which the blood is first affected, but seems to result from an immediate impression on the mucous membrane in the canal, on which all the other symptoms were consecutive. Dr. Snow was then naturally led to infer, that the active cause, which appeared to be taken into the alimentary canal, might be discharged thence, and received by swallowing into another canal, on which it might make a like impression. Carrying out this notion, Dr. Snow surmised that the discharges of the sick, passing into the sewers, might possibly become mixed with the drinking water, and be in this way communicated. As evidence in favour of this he brings forward two cases, viz., Surrey-buildings, Horsleydown, and Albion-terrace, Wandsworth-road, in both of which places there has been a local attack of cholera, while in both places the water appears to have become contaminated by sewage matter.

Dr. Snow appears to have finally arrived at his conclusion, chiefly by the principle of exclusion, viz., that in these two localities the only circumstances common to both were the existence of this contaminated water, and the non-existence of cholera in the immediate neighbourhood where the water was not in use.

We shall have occasion to allude again to these views of Dr. Snow, which we have no hesitation in considering ingenious and well worthy of attention. We do not think it unlikely that this may be one mode of communication of cholera, although exception might be taken to much of Dr. Snow's evidence. But we have no hesitation in stating that it cannot include all the phenomena of cholera, and that the disease must spread in other ways.

Both Drs. Budd and Snow have, we think, considered their own hypotheses in too one-sided a manner. They have applied their speculations to two or three examples; let them apply them to the multitude of facts which have been recorded concerning cholera, and see how these can be explained. The facts, which may be contrary to their views, are very lightly passed over by both these gentlemen.

REPORTS OF SOCIETIES.

WESTMINSTER MEDICAL SOCIETY.

October 6, 1849.

FRANCIS HIRD, Esq., President.

Dr. Webster read a paper, entitled "Observations on the Health of the Metropolis during the Last Six Months, more especially in reference to the Recent Epidemic Cholera." The Author showed that the mortality in the quarter up to Midsummer, was 1¼ per cent. less than in the preceding year, although cholera and diarrhœa had destroyed many persons, the diminution resulting principally from the cessation of scarlet fever; while the mortality in the second portion of the six months has never been exceeded since the great plague in 1665, the mortality being double that of the same quarter in 1848. Other diseases, however, had been less fatal, the principal mortality being from cholera and diarrhœa. In the low grounds on the south bank of the Thames, one-half the deaths had occurred, being treble that on the northern side; the proportion being, in Lambeth, 1 in 91 inhabitants; in St. George's, Southwark, 1 in 64; in Bermondsey, 1 in 56; on the northern side the average being 1 in 252. Bethlem Hospital, Bridewell prison, Coldbath-fields' Prison, and the Regiment in London, had entirely escaped. More females than males had died; and as regards age, more than half the deaths occurred in middle life, nearly a quarter in childhood, and only one-sixth in old age. The author then referred at some length to the various

local and personal causes, as well as the state of the weather likely to produce or aggravate the disease. Diarrhœa had prevailed in Bethlem, but was treated instantly and arrested.

Mr. Harding reported the immunity of St. Pancras Workhouse, and observed, that the water used there is drawn from an artesian well.

Dr. Cormack considered that observations upon cholera, over an extended surface of country, showed considerable analogy to ague in its prevalence more or less in certain localities. He referred to Comparetti's account of persons dying generally in the cold stage of the ague then prevailing, also to Torti's treatment in 1680 of such cases by cinchona, and to Sydenham's account of the medical constitution of the air, as developing intermittent or remittent fever, or cholera.

Mr. Streeter had, with Mr. Quekett, examined cholera urine, and found organic granules like those described by Mr. Brittan. He thought the collapse was owing to the absorption of these into the blood.

Dr. Lankester considered Mr. Brittan's particles to be epithelial cells, and observed, that the fungi must pass through the blood to get into the urine, which militated strongly against the theory of Mr. Brittan, as did likewise the suddenness of the attacks.

Mr. Busk, an excellent microscopist, had failed to recognise as fungi these bodies after a most careful search.

The discussion was then adjourned.

OCTOBER 13.

Francis Hird, Esq., President.

Dr. Snow then read a paper, on

THE PATHOLOGY AND MODE OF COMMUNICATION IN CHOLERA.

He said, that he had been led, contrary to the usual opinion, to consider that the seat of cholera is, in the first instance, at least, confined to the alimentary canal, and that the disease is not occasioned by a poison in the blood; for in those diseases in which a morbid poison was absorbed into the blood, general symptoms of a febrile character always precede any local affections which may arise, which is not the case in cholera. In all the cases he had witnessed, the loss of the watery part of the blood seemed sufficient to account for the collapse, and, in fact, all the general symptoms; and when cholera commenced gradually it could often be stopped, whilst yet, in the stage of diarrhœa, by remedies adapted to act merely on the bowels. This view of cholera had lately been confirmed by the discovery of certain microscopic bodies, believed to be of a vegetable character, in great abundance in the rice-water evacuations. An attentive examination of the history of cholera, as an epidemic, showed it to be communicated by means of human intercourse; and, although there were many facts which were opposed to the theory of its being contagious, in the same way with eruptive fevers, yet these facts would be found, in the sequel, to afford the strongest confirmation of the communication of the disease. Considering cholera, then, to be a local affection of the alimentary canal, and to be communicable, it was clear that it could only be conveyed from one patient to another by something which passed from the mucous membrane of one to that of the other, which it could only do by being swallowed; and, as the disease grows in a community by what it feeds upon, attacking a few persons in a town first, and then spreading to a greater number, it was evident that the cholera poison must multiply itself in the patient like every other morbid poison. The instances in which the cholera evacuations must be swallowed were sufficiently numerous to account for the spread of the malady, and it would be found to spread most where the facilities for this mode of communication of the disease were greatest. The bed linen nearly always becomes wetted with the evacuations, and as these were without colour or odour, the hands of persons waiting on the patients become soiled without their observing it, and unless they are extremely cleanly in their habits, and have opportunities for washing their hands before taking food, they would be liable to swallow a minute quantity of the excretion, and also leave some portion on the food which they handle or prepare, that has to be eaten by the rest of the family, who amongst the working classes often have to take their meals in the sick room; hence the thousands of instances amongst this class of the community of a case of cholera in one member of a family being followed by other cases, whilst medical men and other persons who merely visited the patient without partaking of food, generally escaped infection. One important means of the spread of cholera is by the water used for drinking and culinary purposes becoming contaminated by the cholera evacuations, either by their permeating the ground and entering wells, or by their running into rivers by way of drains and sewers. He enumerated several instances in which great fatality of cholera in particular places was connected with this kind of contamination of the water, and stated that the towns, such as Birmingham, Bath, Cheltenham, and Leicester, in which the Cholera has not spread to any extent, either in 1832 or the present year, were supplied with water quite untainted by drains and sewers. Dr. Wm. Budd had found the microscopic bodies before alluded to, in such drinking water of cholera districts as received the contents of sewers. In conclusion he stated several measures which he thought calculated to prevent the spread of Cholera. The chief of these were a scrupulous attention to cleanliness in those waiting on the sick, and the avoidance of water that receives the contents of drains or cesspools, or if this cannot be effected, to have the water well boiled before being used.

Dr. Swayne (of Bristol,) agreed with Dr. Snow, that the poison of cholera does not enter the blood, because the first stage or diarrhœa is so easily checked. He then related the circumstances of the discovery of his microscopic cells, and said that they were mostly found in the flocculent deposit in the dejecta; seldom in the fluid vomited. The cells are surrounded by a ring of projecting nodules; the cells in the air, found by Mr. Brittan, in the rooms in which persons had died of cholera, and also where they had sickened, bore much the same character, but were more broken. The cells resemble the smut of wheat, but are larger, and quite clear. The cells were not found in only four or five cases out of about fifty.

Dr. Ogier Ward said, that at Bilston collieries there are no wells, but the water pumped from the mines runs down the streets in ditches, which are enlarged here and there to serve as wells; hence the water is very foul. At Birmingham, the ground is not level, and the river, which receives the sewerage, is rendered so black as not to be drinkable.

Mr. Walsh said, that, at Bermondsey, the water commonly drank is rendered impure by the privies opening into it.

Dr. Willshire doubted the connexion so often referred to between diarrhœa and cholera.

Dr. Copland thought, that if the water contaminated by the burial-grounds was examined, Mr. Brittan's cells would be found in it. But this contamination had existed for years without producing cholera. It might, however, predispose to an attack. He quoted from his article on "Choleric Pestilence," that emanations from putrid masses assume the form of organised substances, and so propagate themselves.

Dr. A. P. Stewart observed, that the Commissioners sent to Warsaw in 1832, swallowed cholera evacuations in a concentrated form, yet none died from it. The fungus theory does not account for the terrific rapidity with which cholera spreads at different times. The susceptibility of persons to the disease bears no proportion to their exposure to the disease.

The discussion was again adjourned.

DR. TUCKER ON THE SALINE TREATMENT OF CHOLERA.

[To the Editor of the Medical Times.]

Sir,—As you seem desirous to receive communications upon the all-important subject of cholera, I am induced to give you, in general terms, a report of my trial of the saline treatment, recommended by Dr. Stevens, the only practice I adopted during the six weeks this disease prevailed in Sligo.

Even before trial, the saline treatment appeared to me the most simple and scientific; but, since I have had an opportunity of witnessing its effects, I feel convinced that it is the most efficacious and successful of any practice that is yet known. In every instance where the patient was put under treatment before collapse set in, the case did well, while many patients in the last stage, who appeared to be beyond all hope, recovered, under its use. Those few cases that terminated fatally were all in collapse before I had an opportunity of putting them under treatment. They were either persons of delicate and broken-down constitutions, or so poor that their friends had not the means to carry out the treatment. Small bleedings, blisters sprinkled with turpentine and applied over the heart, sinapisms to other parts, and the internal use of salines conjoined, were remarkably successful. Not a single case proved fatal from consecutive fever. In no instance did I attempt to check vomiting and diarrhœa by opiates and astringents. I observed, that when these symptoms were violent, the patients did well; while those cases in which little vomiting and diarrhœa occurred were the worst.

Now, if these symptoms be, as I believe, Nature's efforts to throw off the poison, it is clear, that to check that effort is to destroy all hope of the patient's recovery. The duty of the practitioner is to aid, not check the *vis medicatrix naturæ*. In accordance with this view, so far from attempting to restrain the action of the bowels, I would, in addition, if possible, excite the action of the skin and kidneys, so that all the outlets of the body might combine in the expulsion of the poison.

To check vomiting and purging, is, as Dr. Stevens states, "to lock up the poison in the body, so that fever and death is the consequence of it." A medical student who was employed in 1832, at Paris, to treat cholera, wrote thus:—"I first cured them of the bowel complaint, and then they got fever. I cured them of the fever, but still they died, and no thanks to me."

The Practitioners of the Pym and Barry school require to reconsider the first principles of medicine. They must regard cholera as a struggle between two powers,—the poison of the malady forcing the patient into collapse, by its sedative and depressing influence upon the blood, and, through it, upon the nervous and circulating systems; and, on the other hand, the vital power of the patient endeavouring to expel it by means of the excretions. This contest for life or death induces a variety of effects termed symptoms, which are not to be treated separately, but their cause must be removed, and for this purpose the treatment recommended by Dr. Stevens seems the most appropriate. He advises extreme attention to cleanliness and pure air; in this way the remote cause of the disease is removed, while by the use of salines, the poison—the proximate cause of the disease—is driven from the blood. If we consider the altered condition of the blood in cholera, robbed of its water and saline materials so essential to life, and surcharged with those poisonous, carbonaceous, and nitrogenous matters that in health are thrown off by the lungs, liver, skin, kidneys, bowels, &c., we shall clearly see how necessary it is to direct all our energies to restore its healthy condition, and to re-supply it with materials essential for its vitality and vigour. Of all the remedies recommended for cholera, Dr. Stevens' is alone calculated to restore to the blood its lost materials; for, by it not only are the lost salts and water re-supplied, but, by means of the chlorate of potash, its arterial condition is more or less provided for, as every three grains of this salt will yield four cubic inches of oxygen gas, the quantity inspired at each respiration. It is the want of this all-important vital element, oxygen—or, according to Dr. Stevens, the vital electricity contained in it—that causes asphyxia, and hurries off the victim of cholera in a few hours. It is absurd to suppose that opium, alcohol, chloroform, or any form of stimulant, astringent, mercurial, or other medicine, (save salines,) can remove this state of disease. Opium may mitigate the pains and pangs of the dying—it may be, what a fanciful writer says of it, "Peace of mind-portable ecstasies pent up in pint bottles, and purchased for pence"; but, in cholera, opium will neither remove the poison from the body, nor restore to the blood one particle of its lost saline or electric materials. But, if Practitioners would recollect that alcoholic stimulants are soon followed by greater depression, they would see the inutility of administering them in the cold stage of cholera, when the vital and chemical functions of respiration, oxygenation of blood, and calorification, are suspended. From their elementary constitution, I regard them as worse than useless—a positive evil, calculated to increase the excessively carbonaceous condition of the blood; for the same reason, ether and chloroform, and ammonia, are all-powerful for mischief in proportion to the absence of oxygen in their composition. Oxygen (not alcohol) is the stimulant nature requires, and calls for, by insatiable desire for cold water, which contains 8-9ths of this vital element. Dr. Stevens maintains, that not only heat, but vital electricity is derived from the oxygen of the air we breathe. Now, as our exist-

ence depends upon two forces, the chemical and the vital, which perform two functions, calorification and nutrition, producing two results, waste and supply, and as oxygen is the chemical force whose function is calorification, by means of which not only the old materials of the body, but also morbid matters, are removed from the blood, we can easily understand how necessary it is to keep up a constant supply of that vital element. Liebig states that without the aid of oxygen, morbid matters cannot be destroyed or removed from the system; that in febrile diseases the blood by reaction, *i. e.*, fever, becomes a means of cure, as a carrier of oxygen. Our object in cholera should be to establish reaction by means of oxygen: our only hope of effecting this in the cold or collapse stage is through the stomach, by means of the chlorate of potash and other salts. I am unable to understand how benefit can be expected in cholera from mercurial treatment, when I consider the nature of the disease—a toxæmic state or poison of the blood—and that the therapeutic action of mercury in inflammatory diseases is to kill a portion of the blood, to break down new and morbid structures, to diminish the function of sanguification, and to reduce animal heat to its normal standard. To be efficacious in cholera, it should have effects quite opposite to those I have just mentioned. The deadly influence of mercurial vapour upon the lower animals demonstrates its poisonous power upon animal life. Mercury is not one of the natural ingredients in the vital currents, neither can it restore to the blood any of its lost materials, which is the important point to be considered in the treatment of cholera. I am, therefore, from the foregoing reasons, convinced that the saline treatment of Dr. Stevens is the proper practice to be pursued, as it appears to be the only one that has anything like rational principle or real success in practice to support it. The Goverment ought to inquire into the real merits of the saline treatment and appoint Commissioners to report upon the various modes of practice in cholera. In 1845, Commissioners were appointed in Ireland to report upon the nature of the potato rot, and surely the cholera may well call for a similar investigation; and whatever materialists may say on this subject, a man is of more value than a potato, or any other material thing in this world.

I remain, Sir, your obedient servant,
J. Tucker, M.D., M.R.C.S., Medical Attendant,
St. John's Dispensary, Sligo.
October, 1849.

LORD *versus* WAKLEY—REFUSAL OF A FEE TO A MEDICAL WITNESS BY A CORONER.

[To the Editor of the Medical Times.]

Sir,—Your last number had a leader on Coroners' Inquests, and the Law relating to Medical Witnesses. *Apropos* to the subject, I beg to direct your attention to a cause heard today in the Westminster County Court. The facts for the medical public may be thus briefly stated:—Several persons residing in rooms over a stable, having died of cholera, a relative, who had been much in the locality, came under my treatment at the Dispensary with neglected colic and diarrhœa, which terminated fatally in *cholera*. An inquest being held, the above simple recital was given by the friends of the deceased, and so much of it as related to the cause of death deposed to on oath by myself. Because I objected, as for years past I have done, to state the medical treatment (a) I had thought fit to adopt, the Coroner adjourned the inquest, that a *post-mortem* might be made by a neighbouring surgeon. He sharply rebuked what he was pleased to designate my shameful behaviour, broadly asserted his belief that I objected, on the score of my having some secret remedy which I would not divulge, or that I adopted a practice I was ashamed to mention.

At the adjourned inquest, Mr. Shaw, who had examined the body, stated his conviction that death had arisen from malignant cholera. The coroner blamed him for not having analysed the contents of the stomach, and added, "that he, at least, whatever the jury might do, should not feel satisfied without the analysis, as the adjournment had taken place in consequence of Mr. Lord's refusing to state his treatment, and to find out what Mr. Lord had put in the deceased's stomach." The verdict, however, was returned of "Death from Cholera," coupled with some expression of surprise or disapproval of my not stating my treatment. The Coroner said, that as I upon principle had objected to tell what I had prescribed for the patient, he upon principle should refuse to pay the fee. As I had attended at the message of the Coroner, sent to me through his constable, I thought it right to ask him, in the presence of Mr. Richard Perry, surgeon, if he declined giving me the fee in consequence of the *informal* notice or order. He replied he did not; he frequently paid where no official summons was issued; that his objection was founded *upon my refusing to complete my evidence*. This morning, however, (though Mr. Perry was in court to have proved the above), Mr. H. M. Wakley pleaded in defence that the summons was made out for the *Coroner*, while he was the Deputy Coroner—that his residence was not "Bedford-street," which was the office of the *Coroner*. These two flimsy objections being over-ruled by the Judge, the Deputy-Coroner obtained a "nonsuit" on the ground which he had disclaimed to me, in the presence of Mr. Perry, viz., that I had not received from him the written formal order, in legal verbal accordance with the Act of Parliament.

It is to be lamented, that the administration of the law differs in different Courts. In September, 1847, Mr. Synot, of Cadogan-place, summoned Mr. Mills to the Bloomsbury Court, for the fee which was withheld, because the usual order for medical witness had not been issued. The Judge, *Mr. Heath*, could have non-suited the plaintiff, I am told, and said that the cause should be conducted by mandamus in a superior Court, where the plaintiff would undoubtedly gain a verdict. He read the judgment given by Lord Denman on the point, and considered the case so clear against the Coroner, that to avoid the expense of being flung into the Queen's Bench, Mr. Mills, the Deputy Coroner, paid Mr. Synot's demand and costs in the County Court.

Reverting to the contemptible grounds upon which the hard-pushed Deputy-Coroner (who does not live at No. 1, Bedford-street,) escaped yesterday from the Court, by shifting the merits of the case to quibbling technicalities, one is apt to call to mind the nursery rhyme, which runs in part thus:—

"Said Lawyer Hawk, 'There is a flaw,
A flaw which I'll explain:
My client you call *Jenny*,
Whereas, her name is *Jane*.'
The Judge declared the solemn plea
Was fatal to the cause;
And then he set Cock Sparrow free:
Cried Robin, 'Hang your laws!'"

In the abstract, I can have as little interest as possible in the issue of such cases, but it is most important for the Medical Profession to be satisfied as to their duty or legal obligation (under pain of Newgate) to answer *all questions under all circumstances* which a Coroner may think fit to put to them. It is right that the Coroner have large powers entrusted to him for public good; but he is apt wrongfully to use this authority. It is most especially wrong that he be allowed to impugn the character of medical witnesses by the mere suspicion engendered through his wantonly calling for recital of medical treatment, the correctness of which a Coroner and jury can know little more about than a man in the moon, and have no power to adjudicate upon, even if they did.

Pray, Mr. Editor, help to put an end to such a farcical manifestation of justice, and such a bullying exercise of "brief authority."

I am, Sir, your obedient servant,
Charles F. J. Lord.
Hampstead, Oct. 16, 1849.

[We cannot help being struck at the injustice of the Coroner in this case. He first neglects his own duty, which was to send a written notice to the plaintiff to attend, instead of a mere verbal message; and he then refuses to pay the fee consequent upon compliance with his request. We hope that our medical brethren will, in all cases, require the proper notice; as, although it may be some time ere such another instance arise, yet there is but one right mode of acting under such circumstances. With regard to the question of evidence, or non-evidence, whatever influence it may have had on the Coroner's refusal, it was, technically speaking, "not in Court."—Ed. *Med. Times.*]

(a) This was muriate of soda and citric acid; frequent subsequent cold drinks, with nitrate of potass in solution.

MEDICAL MEN AND CORONERS' INQUESTS.

[To the Editor of the Medical Times.]

Sir,—I am very much pleased with your leading article on Coroners' Inquests, the law in regard to which, in its present state, I consider to be anything but right, inquests being very frequently held when there is no necessity for them, and very carelessly and improperly conducted where there is. I should say, that no inquest can ever be required where a medical witness is not necessary; and that in many cases where inquests are now held at a great expense to the country, a certificate from a clergyman and churchwardens, or other public officers, should be considered as sufficient,—I mean where death takes place from natural causes in the presence of several persons, and where the Medical man is never summoned. A short time since, I attended a case that terminated fatally, with another Medical man, and we did not agree as to the cause of death, which we expected to clear up on a *post-mortem* examination; but, alas! the coroner held his inquest without summoning either of us, and we remain in the same state of doubt to the present time. I may also mention another case, where I consider the inquest was held very carelessly, and it is only one amongst many similar that I could mention. A man, between forty and fifty years of age, said he felt tired, and would go and lie down. He shortly after called to his wife, and she neglected going to him for fifteen minutes, when she found him dead. I was very anxious for a *post mortem* here; and, as I had no orders to make one, I requested the coroner to give me the order, as it was to gratify myself, and I did not want the fee, and they would object to my doing so except he did. His answer was, "Oh! it is only apoplexy!" I told him it certainly was not. "Well, I am in a great hurry, how long shall you be?" I can tell you the cause of death very soon; I found a rupture of the right auricle of the heart, and a large quantity of blood in the pericardium. What good can such inquests do, or what satisfaction can they be either to Government or private individuals? I should say that where there exists any doubt as to the cause of death, let an inquest be properly conducted, let a medical witness be summoned, and a *post mortem* made; and for this and for every extra trouble, in analysis, &c., let the medical witness be remunerated; and we should then not hear the daily complaints made of the law relating to coroners.

I remain, Sir, your obedient servant,
Tamworth, Oct. 17. R. Cave Browne.

ST. GEORGE'S HOSPITAL. DISADVANTAGES OF HOSPITAL PRACTICE IN ENGLAND.

[To the Editor of the Medical Times.]

Sir,—I address you, as it is in your power to remedy an abuse which exists in many hospitals in London, and more especially in one very celebrated by name for its assiduous and honourable staff of surgeons and medical officers, situated at the West End of London. The abuse I allude to is "the exclusion of all the students from cases of syphilis affecting females, and from all cases occurring in the female wards, which require a private examination." This is not the case in any Continental hospital; and how, may I ask, is a student to become practically acquainted with such cases, if he is not allowed to see them when they occur in his hospital, for which he pays as dearly as at any hospital in England? Can these cases be learned in private practice? The answer must be, No! Must a man be under the necessity of going abroad to study diseases of the uterus? No doubt, they are better taught there; but every student has not money to spend in travelling, and it is well known that the London College does not recognise foreign Hospital practice, or I would venture to say there would be very few medical students in England. To prove this we have also to look at the number of American students in France and Germany. I have only to add, and any medical man may go and see for himself, that whenever there is an interesting case to be examined in the female wards, a screen is put round the patient's bed, and none but the House Surgeon admitted. A screen ought to be put round the bed, and always is; but is it only to prevent the other patients from knowing the nature of the malady under which their fellow-sufferer is labouring, or is it to exclude students, who *pay* for seeing the practice of the Hospital? This has been constantly discussed amongst the students; but no one has yet tried to remedy it, although our more spirited brethren at Bartholomew's did so in their Hospital long ago. A Student.

St. George's, Knightsbridge.

St. Bride's Church-yard, Fleet-Street.—Notwithstanding the crowded state of this cemetery, and the command to close it, fresh interments have been made within the last week. Nothing short of a stringent Act of Parliament will abate these intra-mural nuisances.

CIRCULAR FROM THE COLLEGE OF PHYSICIANS.

With a view to ascertain the best method of treating cholera, and to learn the origin and mode of propagation of that disorder, the Royal College of Physicians some time since appointed a Cholera Committee, who, in September, issued a circular addressed to the medical profession, requesting to be informed as to their several modes of treatment of cholera, and with what success. In order that the Committee may make as elaborate a report as possible, the annexed letter has also been sent to the members of the profession by them:—

"Royal College of Physicians, Pall-mall, Oct. 15.

"Sir,—We are instructed, by the Cholera Committee, to transmit to you the accompanying copies of the letter issued in September, and to request that you will distribute them among those members of the Profession in your neighbourhood, not Members of the College, who have had the largest experience in the epidemic now subsiding. Any aid which those gentlemen may afford the Committee in furtherance of the objects indicated, would be received as an obligation.

"The Committee are so desirous of obtaining your co-operation in a special inquiry respecting the origin and mode of propagation of cholera. They believe, that much might be done towards the elucidation of this important question, by collecting authentic information in regard to the first cases of the disease in the several towns, villages, and public Institutions throughout England. They have, accordingly, directed us to submit to you the subjoined queries, and to beg the favour of your obtaining for them as detailed and precise answers as may be possible:—

"1. Had the person first attacked with cholera in ———, recently been in an infected place; or had he received into his house clothes or other articles which may have conveyed infection, or had he been in contact with strangers coming from an infected locality?

"2. If the disease appears not to have been introduced in any one of these ways, is it possible that the drinking water was the means of conveying the infection by its being contaminated in its previous passage (as a river or canal) through infected places?

"3. What was the character of the part of ———, in which the first case occurred as regards elevation, drainage, supply of water, density of population, ventilation, and cleanliness?

"4. Did the first few cases occur simultaneously, or after what intervals did they succeed each other?

"5. Is there any evidence or probability of there having been communication or near approach between the first patient or patients, and those next affected?

"The following queries have reference to the communicability of the disease, but do not relate especially to the first cases:—

"6. In the instances where several cases have occurred in the same house, have they been simultaneous or successive?

"7. Have any persons attending on cholera patients, or employed to wash the clothes or bed-linen of such patients, been soon afterwards attacked with the disease?

"8. Where several persons in one house, or in contiguous houses, have been attacked, in a district otherwise free from the disease, has it been discovered that the water used for drinking had been contaminated by a sewer, drain, or cesspool, or have any other causes appeared, which would explain the particular limitation of the disease?

"9. Can you learn that the disease has apparently been conveyed to neighbouring healthy places, by infected persons leaving ———?

"In conclusion we have to ask you the favour of an early reply to the present as well as the previous letter of the Committee. It is desirable that all communications should be sent in by the 15th of November, or as soon afterwards as possible.

"We have the honour to be, Sir,

"Your obedient humble servants,

"William Baly,

"William W. Gull,

"Secretaries to the Cholera Committee."

Mr. Purnell, of Charter-house-square, is appointed Surgeon to the Royal General Dispensary, Aldersgate-street, in the room of Samuel Solly, Esq., resigned.

SPIRITED CONDUCT OF PAROCHIAL MEDICAL OFFICERS AT KELSO.

A Meeting of the Kelso Board of Guardians was held on Wednesday, Oct. 10, when a Resolution was passed, by a majority of 6 to 3, that, in consequence of the alleged diminution of cholera cases in the parish, the system of house-to-house medical visitation should be discontinued. The minority strongly protested against this measure, in consequence of the great good which had been effected by the Medical men early discovering and checking cases of diarrhœa. The Medical Practitioners of the town have also made a spirited and decided stand against the foolish parsimony of the Board of Guardians. The supposed saving which will be effected by thus depriving the poor of Medical aid, and exposing a town containing a population of 5,000 to the ravages of cholera, is five guineas a week. Here we have another proof of the impropriety of Boards of Guardians being made Superintendents of the Public Health. The movers of the scheme, a Correspondent informs us, are certain "myrmidons of the law, who, from interested motives, have thrown obstacles in the way of the medical officers." These gentlemen have, in consequence, met and passed a resolution, in which they say, that "they cannot brook an insult of so marked a character, and that they cannot have any further connexion, as to the management of the prevailing epidemic, with a Board so thoroughly ignorant of its legitimate duties, and of the ordinary courtesy due to the members of a liberal Profession." We are sorry to learn that two of the medical staff who signed the document have since "recanted." We conceive that sanitary measures will never be efficiently carried out till medical men are emancipated from the authority of persons who have no proper knowledge of what conduces to the public health, and who are only anxious to effect a present saving of the parochial funds.

MEDICAL NEWS.

Apothecaries' Hall.—Names of gentlemen who passed their Examination in the science and practice of medicine, and received certificates to practise, on Thursday, Oct. 11, 1849:—William Parry, Montgomeryshire; Robert Growse, Bildeston, Suffolk; James Harvey Lilley, Wisbeach; Samuel Brown, Bradford, Yorkshire; John Seymour, London.

Royal College of Surgeons.—The following gentlemen having undergone the necessary examinations for the diploma were admitted members of the College, at the meeting of the Court of Examiners on the 12th inst.:—Messrs. Frederick George Sadd, London; Robert Tassell, Wye, near Ashford, Kent; George Campbell Knight, Chaquar-hill, county Galway; Philip John Vander Byl, Cape of Good Hope; Robert Growse, Bildeston, Suffolk; Thomas Henry Mayne, Templemore, Ireland; Sampson Kingsford Butch, Canterbury; James Walker, Alford, Aberdeenshire; and William Francis Fryer, Kinsale, county Cork. At the same meeting of the Court, Mr. Thomas Seccombe passed his examination for Naval Surgeon; this gentleman had previously been admitted a member of the College, his diploma bearing date May 12, 1848.

Collegial Elections.—From a notice in the *London Gazette*, it appears that the Fellows are to meet in the theatre of the College on the 1st of November next, for the purpose of electing, from among themselves, two gentlemen as Members of the Council in the vacancies occasioned by the resignation of Mr. Richard Welbank, and the lamented decease of Mr. Charles Aston Key;—the vacancy occasioned by the decease of Mr. John Goldwyre Andrews remaining open until the annual meeting in July, according to the provisions of the Charter, that gentleman having been a life member.

Obituary.—On Friday week, in Earle-street, Liverpool, after a few hours' illness, aged 51, Thomas Macartney, Esq., surgeon.—On the 24th of May last, after a few days' illness, at Adelaide, South Australia, James Tweeddale, M.D., Royal Navy.—Mr. H. Wells, surgeon, Warwick-street, Pimlico. Deceased lost his life in a sewer, into which he descended in order to render assistance to three men, who were, subsequently, found to have died from the effects of sulphuretted hydrogen generated in the sewer.—On the 13th instant, at Alton, Hants, William Curtis, surgeon, in his 30th year.—On the 15th instant, at his residence, No. 7, Norland-place, Notting-hill, Samuel Proctor, Esq., M.D., late of Salisbury-square, Fleet-street, aged 64, deeply and deservedly regretted by his family and numerous circle of friends.

Re-Election of a Physician to Bedford General Infirmary.—It appears that, by an informality in the use of "Proxies," the election of Dr. Vaughan Hughes as Physician to this Institution, on the 13th ult., has been declared void, and that a new election is about to take place.

Preston Dispensary.—Ralph Holden, Esq., M.D., Edinb., has been appointed Honorary Physician, in the place of Dr. Heslop, who has resigned.

Society for Relief of Widows and Orphans of Medical Men in London and its Vicinity.—A Half-Yearly General Court of this Society was held at the Gray's-inn Coffee-house, on Wednesday evening, the 17th inst.; Martin Ware, Esq., V.P., in the chair. A ballot took place for the election of Officers and Directors for the ensuing year. Vacancies had occurred in the list of Vice-Presidents, by the death of R. R. Pennington, Esq.; and in the list of Directors, by the death of Dr. Burton, and by the retirement of the other five senior Directors. The following gentlemen were elected, viz.:—As Vice-President, Thos. Arthur Stone, Esq., late Treasurer; as Treasurer, Richard Blagden, Esq.; as Directors, Dr. Nairne, Dr. Jeaffreson, Mr. Charles Hawkins, Mr. Hancock, Mr. Iliff, and Mr. Ansell. Three applications for relief had been received from widows of Members who had recently died of cholera.

London Orphan Asylum.—The vacancy occasioned by the lamented decease of Mr. Charles Aston Key, as Consulting Surgeon to this excellent Institution, has just been filled by the election of Mr. T. B. Curling, of the London Hospital.

The Queen's College, Birmingham.—The Twenty-third Session of Queen's College was opened, on Tuesday week, in the new theatre of the Institution. An inaugural address was delivered by the Rev. Horace Gray, Warden of the College, and Professor of Pastoral Theology. The Vice-Principal afterwards presented the following prizes to those medical students who had especially distinguished themselves:—First Warneford Gold Medal, 25*l*.—Stead, Congleton. Second Warneford Gold Medal, 15*l*.—Mills, Tipton. The Jephson Prize, 21*l*.—Thomason, Shiffnal. Anatomy—Medal and Certificate—Moore, Hales Owen. Anatomy—Certificate—Stead, Congleton. Surgery—Medal and Certificate—Moore, Hales Owen. Materia Medica—Medals and Certificates—Hill, Walsall, and Russel, Brierley-hill, Æq. Materia Medica—Certificate—Roland, India. Chemistry—Medal and Certificate—Fryer, Coleford. Practice of Physic—Certificate—Freer, Stourbridge. Practice of Physic—Certificate—Darwin, Birmingham. Midwifery—Medal and Certificate—T. Lowe, Birmingham. Botany—First Certificate—Wilkinson, Northleach. Botany—First Certificate—Spark, Newcastle-under-Lyne. Forensic Medicine—First Certificate—Lowe, Birmingham. Demonstrator—Book—Partridge, Darlaston. The following Certificates from the University of London obtained at the Pass Matriculation were next presented:—Honours.—Classics and Chemistry: Franks. Chemistry: Lambert, Croydon. First Division—Cantrell, Wirksworth; Coleman, Wolverhampton; Franks, Whittlesea; Lambert, Croydon; Mitchell, Dulverton; Smith, Southam. Second Division—Chatwin, Birmingham; Cockerill, Newport; Day, Chudleigh; Earle, Ripon; Fox, Weymouth; Turner, High Wycombe; Vincent, Oxford; Waller, Chesterfield; White, Birmingham; Williams, Denbigh.

Testimonial to Mr. Postgate of Kilham.—A Deputation waited on Mr. John Postgate, Sur-

geon, Kilham, on Saturday, the 29th ult., and presented to him a handsome silver goblet, as a mark of their high appreciation of his profession skill and moral worth. It must be gratifying to Mr. Postgate to receive such a proof of the estimation in which he is held, especially as he has only been three years settled at Kilham. The testimonial was obtained by public subscription amongst his friends and supporters.

REGISTRATION.—It may save our young friends, the new students at the London Schools, great trouble, inconvenience, and expense, by informing them that, according to the regulations of the College of Surgeons, they should attend at that Institution any day, from the 21st to the 30th inst., for the purpose of registering their cards of admission to Lectures and Hospital Practice.

LUNATIC ASYLUMS.—In a statement presented to the Gloucester Court of Quarter Sessions, on Tuesday, a great increase of lunacy was shown. The number of pauper lunatics in the County Asylum, in 1824, was 60; in the present year, it is nearly 300. The Chairman (P. B. Purnell, Esq.) presented a voluminous Report on the management of the Gloucestershire private lunatic asylums, reviewing many cases of great cruelty which had been brought to light within the last eighteen months, since these asylums had been more closely looked into. In one case, which has already been before the public, two gentlemen had been confined in the Fishponds Asylum, the relatives paying 110*l*. for each per annum, while 350*l*. per annum had been left by their deceased father for the purpose of providing them with every comfort which their deplorable condition could permit of; and the relatives had appropriated accumulations of the lunatics' allowance, to the amount of 8,400*l*., among themselves. The Court of Chancery had marked its opinion of that case by ordering that an allowance of 550*l*. per annum be made for the benefit of the unfortunate gentlemen, instead of 220*l*., as allowed by the relatives. Other cases were alluded to, such as chaining up patients until sores were caused on their limbs by the manacles, confinement in rooms under six feet wide and seven feet high, stripping patients and washing them in a yard with a mop, &c. An application intended to be made for a renewal of a license for the Ridgway House Asylum, and which the Chairman intended to oppose on grounds enumerated, was withdrawn. The thanks of the Court were given to the Chairman for his exertions in this matter.

MORTALITY TABLE,

(Metropolis.)

For the Week ending Saturday, Oct. 13, 1849.

CAUSES OF DEATH.	Total	Average of Five Autumns.
ALL CAUSES	1075	[illegible]
SPECIFIED CAUSES	1072	1158
Zymotic (or Epidemic, Endemic, and Contagious) Diseases	[illegible]	307
SPORADIC DISEASES:—		
Dropsy, Cancer and other Diseases of uncertain or variable seat ...	50	49
Tubercular Diseases	[illegible]	[illegible]
Diseases of the brain, Spinal Marrow, Nerves, and Senses	89	[illegible]
Diseases of the Heart and Blood vessels	31	[illegible]
Diseases of the Lungs, and of the other Organs of Respiration	13	[illegible]
Diseases of the Stomach, Liver, and other Organs of Digestion	59	[illegible]
Diseases of the Kidneys, &c.	12	11
Childbirth, Diseases of the Uterus, &c.	13	[illegible]
Rheumatism, Diseases of the Bones, Joints, &c.	6	
Diseases of the Skin, Cellular Tissue, &c.	1	1
Malformations	1	4
Premature Birth and Debility	39	23
Atrophy	35	18
Age	41	57
Sudden	12	12
Violence, Privation, Cold, and Intemperance	14	36
Causes not Specified	3	4

The following is the number of Deaths occurring from some of the more important special causes:—

Apoplexy	21	Heart	30	Phthisis	132
Bronchitis ...	16	Hooping cough	19	Pneumonia ...	71
Cholera........	110	Hydrocephalus	19	Scarlatina	56
Childbirth	7	Influenza	2	Small-pox	6
Convulsions...	21	Liver	8	Stomach	6
Diarrhœa	91	Lungs	6	Teething	8
Dropsy	13	Measles	8	Typhus	47
Erysipelas ...	8	Paralysis	16	Uterus	4

BIRTHS AND DEATHS.

	Births.	Deaths.	Births over Deaths.
Males	658	510	148
Females	613	565	48
Total......	1271	1075	196

METEOROLOGY OF THE WEEK.

Day.	Mean of Barometer.	Mean of Thermometer. Dry.	Ditto. Dew Point	Difference between the Mean Temperature of the day and the same day on an average of 7 years.	General Direction of Wind. A.M.	General Direction of Wind. P.M.	Amount of Horizontal Movement of the Air.	Rain in Inches.	Electricity.
Sunday	[illegible]	53.9	[illegible]	[illegible]	S.E. & S.W.	S.S.W.	Miles. 112	[illegible]	Nothing shown.
Monday ...	29.[illegible]	[illegible]	[illegible]	— [illegible]	N.W. & N.N.W.	N.N.W.	...	.01	P. & tension moderate at 9 a.m.
Tuesday ...	[illegible]	42.1	[illegible]	— [illegible]	S. & N.W.	W.	...	[illegible]	P. & ten strong between noon and 9 p.m.
Wednesday...	[illegible]	[illegible]	[illegible]	— [illegible]	N.W.	N.N.E.	...	[illegible]	P. and tension strong
Thursday ...	[illegible]	47.[illegible]	[illegible]	— [illegible]	N.E.	N.E.	130	.04	P. & tension weak at 9 a.m. and 3 p.m.
Friday	29.15	[illegible]	[illegible]	—1.7	N.N.E.	N.E.	151	[illegible]	P. & tension moderate.
Saturday ...	[illegible]	[illegible]	[illegible]	—7.1	N.E.	N.E.	[illegible]	.17	P. & tension strong at 3 p.m.
Means ...	[illegible]	[illegible]	[illegible]	—1.7			[illegible]	[illegible]	

[illegible] P. or Positive. N. or Negative.

TO CORRESPONDENTS.

MEDICAL SOCIETY OF LONDON.—We have many apologies to make to our readers generally, and to the Members of the Medical Society of London, for the report of the proceedings of that body, which appeared in our last number. It contains many errors, unfortunately of so absurd a nature, that no one could believe such things were said. Mr. Harvey could not have proposed to make incisions "*[illegible]* the [illegible];" and [illegible] context shows that, in [illegible] affections of the ear, where continued [illegible] and tendency to extend over the [illegible] and [illegible], [illegible] the [illegible] [illegible] that [illegible] to [illegible] "*down* to the bone." Dr. Crisp did not [illegible] to the [illegible] [illegible] [illegible] that [illegible] diseases of the [illegible], they might probably prevent some of the [illegible] which so frequently [illegible]. Dr. Crisp did not say that the condition of the blood was the *sole* cause of hæmorrhage, but that *one* form of hæmorrhage was occasioned probably by the condition of the blood. We are greatly at a loss to understand what our reporter makes Dr. Wilshire assert. The reader will observe, however, that some speakers referred to the condition of the blood as the cause of hæmorrhage in scurvy. Dr. Willshire says, "round the seat of inflammation," we suppose the word should be *hæmorrhage*,—and not *inflammation*,—round the seat of *hæmorrhage* is a want of cohesion in the parts, which want of cohesion it is, which has permitted, in fact, the hæmorrhage. In order that this "want of cohesion" shall be produced, a peculiar condition of the circulating fluid (with perhaps other local conditions) is necessary; and in this sense, the state of the blood may be said to be productive of hæmorrhage, inasmuch as it tends to produce the "want of cohesion" to which the bleeding is immediately due. But what Dr. Willshire wants to state is, apparently, that the hæmorrhage in scurvy is not at once due to the condition of the blood, but to the condition of the solid parts,—a "want of cohesion" which has resulted from the state of the blood, coupled possibly with other causes. But after all, this may not be the right reading; if it is not, perhaps Dr. Willshire will kindly communicate with us upon the subject. Similar mistakes, however, *cannot* again occur; and we beg to assure Dr. Copland, that, in future, he may venture to speak at Societies, without the fear of being incorrectly reported in the "Medical Times."

THE WATER QUESTION.—We have received Mr. Tabberner's correspondence with the "Morning Chronicle," on the impracticability of the Henley-on-Thames project for supplying London with water. We shall consider the subject, and probably lay an abstract of it before our readers.

"Mr. Smith, of Belper," writes to us upon the case of Nottidge *versus* Ripley, and "the mischievous effects which, if acted upon, the dictum of the Chief Baron would exercise on the best interests of the insane." The length of Mr. Smith's communication, and the advanced period of the week in which it has come to hand, oblige us merely to acknowledge its receipt.

"Dr. Aldis" will kindly receive our thanks. The report of Cholera cases attended at Twickenham by Mr. Litchfield is very valuable, and will be duly analysed.

"Mr. Wardrop's Work on the Heart."—We beg to inform many inquiring correspondents, that the difficulty of obtaining "copy" from the Author is, in a great measure, the cause of the delay in the appearance of this Work. We wish, with many subscribers, that it was completed.

"Mr. Cave Browne, of Tamworth," is right in supposing we wish our Cholera Table to be returned to us at the termination of the epidemic.

"Dr. Feothern" has our best thanks. His approbation is peculiarly acceptable.

"A Correspondent" is informed, that the fatal accident in the Pimlico Sewer will next week be considered. It is suggestive of many points of comment.

"J. M. B.," will be duly replied to next week.

"Dr. Hobson's" letter from Canton, of the 24th July, has been received, and will be inserted in our next week's Number.

Mr. Ross' "Observations on the Recent Epidemic" did not reach us in time for this week; they shall appear in our next.

"G. M. B." wishes to know if there would be any danger from lead poisoning by giving small and frequently repeated doses of acetate of lead in dysentery or cholera, as recommended by some writers. The acetate may be given to a considerable amount without danger. Dr. Christison states, that he has often given it, in divided doses, to the extent of eighteen grains daily for eight or ten days, without remarking any unpleasant symptoms, except slight cholic. We have given it to the amount of two scruples daily for three or four days without producing any unfavourable symptom.

"Petr." The symptoms produced by sulphuretted hydrogen vary according to the degree of concentration in which it is respired. A person who breathes it moderately diluted speedily becomes insensible. If the gas in a still less concentrated state be respired for some time, coma, or, sometimes, tetanus, with delirium, supervenes. Air slightly impregnated with sulphuretted hydrogen may be inhaled for some time without producing any unpleasant symptoms. The gas appears to act like a narcotic poison when highly concentrated; like a narcotico irritant when much diluted with air.

"An Alean" asks information on the mode of clinical instruction adopted in Germany. Three medical clinics are attached to each school. The pupils are divided into seniors and juniors, the former have the care of patients. A patient on admittance is assigned to a senior student, who takes notes of the origin and progress of the disease under which the patient is labouring, and his state on admittance. These are read at the bedside of the patient on the physician's visit. After visiting the wards, the professor and his class adjourn to the lecture room, where the pupils are examined on the nature of the diseases under their care, their probable termination, and the modes of treatment adopted. Whatever appears erroneous the physician corrects. At the conclusion, the prescriptions written by the students, after having been revised and signed by the professor, are sent to the apothecary. In the German method no regular clinical lectures are necessary.

"A Young Chemist" requires the best mode of analyzing atmospheric air. Dumas' is generally considered one of the best. He allows air to pass over ignited metallic copper in the pulverulent form, in which it is obtained by reducing the oxide with hydrogen gas. The absorption of the oxygen of the air is complete, and the air having been previously dried, and deprived of carbonic acid, by passing through tubes containing caustic potash and oil of vitriol respectively, the increase of weight of the metallic copper gives the quantity of oxygen, and the increase of weight of the globe into which the air is drawn gives the nitrogen, so that the relative numbers are determined with great precision. (2) Gases of unequal densities, placed in contact with each other, ultimately mix.

"M. D." is correct in his supposition.

"Londinensis."—The Apothecaries' Company is compelled to demand of candidates for the certificate proofs of having served a five-years' apprenticeship.

"The Rev. J. Hithersay" will see that his request has been attended to. We always feel great pleasure in recording instances of public respect to the members of the Medical Profession.

"Mr. J. Waddington's" communication has been received.

"Mr. J. Davis."—The subject will be continued as regularly as possibly till concluded, which will be in the present volume.

"A Subscriber."—It would be difficult for us to form an opinion from the conflicting evidence in the newspaper report. The death was singular and suspicious.

ORIGINAL LECTURES.

LECTURES ON OPERATIVE OPHTHALMIC SURGERY.

DELIVERED AT THE CENTRAL LONDON OPHTHALMIC HOSPITAL.

By H. HAYNES WALTON, Esq., F.R.C.S.,
Surgeon to the Hospital, and to the St. Pancras Royal General Dispensary.

LECTURE VII.

Soft Cataract, Operations required for.—Description of Operations.—Results.—Inquiry into Causes of Failure.—Question as to the Propriety of Extracting a Soft Cataract.—Age at which an Operation may be Performed in the Young.—Fragments of Cataract in the Chambers of the Eye.

Soft Cataract.—GENTLEMEN,—A cataract exhibiting the characteristics of softness, all of which have been fully dwelt on, is effectually removed, through the process of absorption, by opening its capsule, and allowing the aqueous humour to be in contact with it. The term "*operation for solution,*" is employed to express this means of cure.

The only instrument required for the purpose is a needle, such as I here show you, sharp at each edge for about the eighth of an inch in extent from the point. It should be spear-pointed, and as delicate as is consistent with sufficient strength.

Cataract needles are generally unnecessarily long, which requires them to be stouter than they need be. Three-quarters or even five-eighths of an inch from the handle to the point, is ample length for any purpose.

There are two methods of effecting the operation, the one through the cornea, the other through the sclerotica; they are designated anterior and posterior operations. The first is more simple and definite, too; for the instrument is never out of view, less injury is done to the eye, the operation is quite as effectual, and is, perhaps, followed by less inflammation, consequently, I generally adopt it. There are different opinions as to the extent to which the capsule should be lacerated, and the opaque lens disturbed. It is a point well ascertained, that the greater the division of the cataract, and the more it is exposed to the influence of the aqueous humour, the quicker it will disappear. Again, more freely the capsule is divided in the first instance, the more effectually does it contract after the cataract has been removed. But there is something else to be taken into account besides merely clearing the pupil. The integrity of the retina must be preserved, or the operation would be useless. It is essential, therefore, not to do too much at once, and thus, perhaps, excite inflammation; for, when it does arise and proceed to any extent, the eye is in great danger. Inflammation may supervene as a secondary consequence. Loose portions of the cataract may, from their presence in the chambers of the eye, induce it. My own line of practice is regulated by the condition of the cataract. When I suspect it to be about as soft, or rather less so than the natural lens, I make but a small slit into the capsule, penetrate the opaque lens but slightly, and rotate the needle in it a few times. It is the "stirring-up," as it is called, of this kind of cataract that tends to induce inflammation. With a large aperture, there is danger of dislocation of the cataract, or of its nucleus, at some future period. Although I have not had personal knowledge of ill consequences from such causes, I am well aware that they do happen, and I endeavour to avoid all chance of their occurrence. In my casebook, I find several instances of dislocated soft cataracts that have been absorbed in from five to seven weeks, without bad results. I saw the lens of a child of three weeks old forced into the anterior chamber from a fall on the head. It quickly disappeared.

I suspect, that is speaking from my own experience, so long as the cataract or parts of it remain in the anterior chamber, there is little to be feared; but when the posterior chamber is occupied there is decided danger.

When the cataract is very soft there can be no fear from dislocation. The soft nature of the opaque mass admits of quick removal, and at the same time is, I think, almost incapable, from its physical properties, of producing injurious pressure. The nucleus, should there be any, will certainly be very small, and its escape need not produce apprehension. Therefore I avail myself of a large central opening in the capsule, and move the needle about in its contents in several directions. Yet I think it safer for it to be absorbed *in situ*. If I think that the cataract is fluid, I endeavour to divide the capsule completely across.

The degree of opacity of the capsule in the two first instances should have some influence in regulating the extent to which it is opened. In proportion as it is dense, is it less likely to split beyond the rent that has been made, and allow the cataract to pass out, while it has a greater tendency to close and unite by adhesive inflammation; therefore it may be laid down, that a larger division is admissible, in proportion to the opacity and thickness. It has been the practice of later years to use the needle very freely in the cataracts of infancy, and when lenticular, purposely to displace the pieces, attempting by one operation to effect the cure. The success attending it shows, that at that age the eye is less liable to take on an inflammatory action.

The posterior operation certainly enables you to break up a lens with greater ease, and to place its fragments in the anterior chamber, (a practice I condemn,) and is, therefore, more commonly adopted in children. Mr. Tyrell told me, shortly before his death, that in eight cases of congenital lenticular cataract in infancy, he performed the posterior operation in one eye, and the anterior in the other. The result was, that all did well, but the eyes in which the posterior operation was performed, and the broken-up lenses displaced, were cured the soonest.

It is, then, a question of time, supposing that both the operations succeed well, and the eyes are alike permanently useful. Mr. Tyrell had not the opportunity of seeing those cases after a lapse of years. Had his life been spared, the probability is, that he would not have heard anything about them; therefore, until it is clearly proved to me, that the vitreous humour can with the greatest impunity be cut and torn, and the puncture of the conjunctiva sclerotica, choroid, and perhaps retina (to say nothing of accident to the ciliary processes and vessels, and nerves) is as little injurious as a puncture of the cornea, I shall adhere to the

passages, I should say that Mr. Tyrell had not a clear idea of the superiority of the posterior operation. Vol. II. p. 374, "The anterior operation for solution is the best and safest in congenital cases." P. 455, "I consider this operation (the posterior one) applicable, principally, to cases of congenital lenticular cataract."

Description of the anterior Operation.—The pupil should be dilated to its utmost. The preliminaries being the same as for extraction, need not be described.

A wire speculum is more adapted than the finger, for raising and fixing the lid in children, and especially in infants, and should be provided. Children should be effectually secured by several assistants. The needle should be introduced through the external margin of the cornea, the point carried to the cataract, and used in whatever manner the operator may desire. With common caution the iris is easily avoided, and the aqueous humour will not escape. I sometimes see surgeons thrust the needle into the eye with great rapidity: why I cannot tell; surely the concussion must be injurious, and with such quickness there is uncertainty where the point of the instrument will go.

The posterior Operation is executed precisely like that for displacement, except that when the needle, which is the same as that used for the anterior operation, is brought in front of the cataract, it is employed for a different purpose. When it is intended to reduce the cataract to fragments, the instrument should be alternately carried forwards and drawn backwards, with a sufficient degree of pressure in different directions, till that object is fully accomplished.

After the capsule is torn it is likely to come into contact with the iris, and become adherent; but, if the pupil is kept well dilated, till the reduction in the bulk of the cataract causes the capsule to recede, the occurrence may be prevented. Sickness and vomiting frequently follow the use of the needle, especially in the anterior operation.

The time required for the absorption of a cataract depends on many circumstances. Besides what has been mentioned, I may add, individual peculiarity, which seems to exert its influence. Under apparently the same circumstances, and the cataract remains much longer in some subjects than in others. The presence of inflammation is said, and I believe correctly, to suspend absorption.

The common practice of treatment by solution is to repeat the operation at intervals, and a specified time is mentioned by some authors. The repetition is grounded on the supposition that the absorption has ceased, or is proceeding very slowly.

A single anterior operation will suffice in perhaps the majority of cases, and certainly always when the cataract is fluid. If, after ten or twelve weeks, there is not evidence in the flattening of the capsule, and the concavity of the iris, that absorption has been proceeding, the operation may be repeated in the same spot, or in some other part of the cataract otherwise there should not be any interference.

When the natural connexion between the lens and its capsule is partially destroyed, the aqueous fluid admitted between them, and its influence exerted on the cataract, that body must be considered as extraneous, and so long as it remains in the eye is likely to be a source of irritation, or at least it produces a state that renders the eye very susceptible of injury. The first use of the needle, if it be employed with care, is seldom followed by much inflammation. Not so with its after applications; then there is a greater tendency to it.

The operation for solution is said to be the safest that is employed for the cure of cataract. That the eye may be less frequently destroyed by it at the time of operating, than by any other mode, I am well aware, but its ultimate results are not superior, or equal to extraction in the aged. The failure or imperfection very frequently arises from the partial amaurotic state, consequent on the inflammation excited, which is not generally of a very acute form, but continues for a long time, in spite of all remedies.

Many cases occur to my mind, and some of them were in my own practice, where too hasty an endeavour to obtain a clear pupil has sealed the fate of the eye. The repetition of the posterior operation is certainly very much more hazardous than the anterior.

When the cataract has been absorbed, the capsule contracts beyond the limits of the natural pupil, or leaves a sufficient aperture for vision, or it may yet remain stretched across the pupil, and require to be removed.

In particular cases the results of the operation for solution may be as good as those of extraction; but the aggregate of them is decidedly inferior. I speak from what I have observed. I must exclude from this statement the operations on infants for congenital cataract, as it is called, or for that kind of cataract at a later period of life, because I have scarcely seen enough of them to entitle me to form a general opinion; and those who have, state that they cannot be surpassed.

Besides the slow inflammation that sometimes tends to failure, I am inclined to think, that the condition of eye producing the cataract greatly contributes to the less perfect result of needle operations. You will remember what I said about the formation of soft capsulo-lenticular cataracts; and soft cataract is almost always combined with opacity of the capsule. The observation cannot apply to congenital cataract, as its mode of production is always ex-

cluded from our observation. The following quotation from Dr. Mackenzie is worthy of your attention:—"Has the process of solution and absorption of the lens no exhausting effects upon the internal parts of the eye? Are these parts left as sound after this process has been accomplished as after extraction? To these questions I must answer, that after the process of solution and absorption is completed, we frequently observe undeniable signs of the internal textures of the eye having suffered, not from inflammation apparently, nor from extraction, but rather from exhaustion. The nutritive, or regenerative power of the eye appears to be weakened. The iris becomes paler and more flaccid than natural, the pupil smaller, and its motions less vivid; while in some cases, the wasting of the eye extends more deeply, the vitreous humour shrinks, and the retina loses its sensibility."

I am unable to account for the imperfect vision that exists after a traumatic cataract has been absorbed, except the "exhaustion" referred to be taken into account. It is very common, that a lens which has become opaque from injury to the eye, whether the capsule has been wounded or not, will, sooner or later, disappear; and, if the capsule has contracted sufficiently to clear the pupil, or when it requires to be removed for that purpose, the sight is so bad as to be almost useless; although, with the exception of the loss of the lens, the eye may appear healthy. Doubtless, the blow that the organ receives, and the inflammation that follows, may sometimes contribute to the amaurotic state; but neither is apparently sufficient, in perhaps the majority of instances, to produce it. The most favourable case that has occurred to me, was in a pupil of the Rev. M. Chorley, of Beaconsfield, to whom I was called. The cornea was wounded with a stick, and cataract followed. About a year after, the young gentleman came to me; the cataract was gone, and the capsule considerably contracted. With a glass he could recognise countenances and read large print. Dr. Farre has recorded a case in which the sight was even superior to this. I am often asked, why not extract a soft cataract? I have been accustomed to say, because, with a simpler operation, the natural powers are quite capable of its efficient dissipation. That when the cataract is much softer than the healthy lens, it would be very difficult, if not impossible, with safety to the eye, to remove it by extraction. A considerable portion of it must be left behind, and, with the immediate risk that belongs to extraction, absorption must still be relied on to perform the work of removal. Then extraction is not applicable to children. Yet I am inclined to think that soft cataract, whenever it may occur, provided it is not softer than a natural lens at any period of life,—a point difficult to ascertain, I admit,—and the patient of an age voluntarily to submit to operation would be better treated by extraction.

The late Mr. Gibson used to extract soft cataracts, in consequence of the ill result of solution. I think that his mode of operating would have been rejected, had his practice been imitated. He lacerated the capsule with a needle, and some weeks after made a small cut in the cornea, and removed the cataract piece meal with the curette. The operation for solution, which is so valuable in childhood, and in very soft cataracts, is, I am convinced, much abused by being employed in the adult cases.

Following the practice of the day, I have been in the habit of restricting extraction nearly entirely to those cataracts that have exhibited the amber colour; but I hope before long to be able to give you the result of a more extensive application of extraction.

Mr. Travers, like Mr. Gibson, being dissatisfied with the operation for solution, resorted to the extraction of soft cataract. His writings on the subject are to be found in the *Medico-Chirurgical Transactions.* His description of the operation is in the fifth volume. He makes a quarter section of the cornea, and with the knife freely lacerates the capsule. He says that the fluid cataract is instantly evacuated with the aqueous humour; the flocculent cataract frequently passes out entire, taking an oblong shape, and the soft caseous cataract piecemeal through the hollow of the scoop, on gently depressing the margin of the pupil and sclerotic.

He adds, if all the pieces were not evacuated, the introduction of the capsule needle was found sufficient to clear the pupil, and they disappeared, in a few days, by absorption.

He had performed the operation on infants; and where the capsule is opaque and inadherent, and the eye not very unsteady, and the child not very unmanageable, he preferred it to the needle. He afterwards states, "but if the capsule is transparent, its contents are generally fluid, or of a consistence almost as permeable and easy of dispersion, and the operation with the needle passed through the cornea, as performed by the late Mr. Saunders, is, if properly executed, unexceptionable."

It is evident, from an earlier paper, in the Fourth Volume of the "*Transactions,*" that he would limit extraction to the hardest kind of soft cataract, and employ the process of solution to the others. I am not aware that soft cataracts are extracted in London at the present day. Why the practice of Gibson and Travers should be laid aside, after their favourable report on it, I am not aware; for there has been no improvement in the use of the needle, nor in the result of needle operations since those gentlemen wrote.

It is not possible, either by words or delineations, to convey such ideas as will enable one unacquainted with the appearance of cataracts to recognise the densest kind of soft cataract. The discrimination must be learned on the subject.

As a cataract once formed never becomes harder, except a calcareous deposit occurs, the time of life at which it is discovered will be a sort of guide, so far as its density is concerned. It can never be harder than the lens at that age would be; but, of course, it may be much softer. Yet, as far as I have been able to ascertain, there is less tendency to soften and to degenerate in proportion as the cataract occurs later in life.

How early in life may an operation for cataract be undertaken? It is better not to defer it till the oscillation of the globes has commenced. I should perform it soon after the second month, or even earlier, were the child in good health. If the presence of any portion of cataract in the anterior chamber should be producing irritation, after means for subduing that inflammation have been ineffectually resorted to, the offending body must be extracted, the opening in the cornea being adapted to its size. It would be bad practice to resort to extraction till there was evidence of the body becoming injurious, because such an occurrence is the exception. This is different advice to what I gave when speaking of dislocation during displacement, when the cataract would be hard. When inflammation proceeds from the presence of irritating bodies posterior to the iris, you must, as a last resource, try, by extraction or displacement, to remove them. Fortunately, I have never had to deal with such cases.

It would be unnecessary to give any advice for the treatment of inflammation that may arise after the employment of the needle. It is enough to say, that it is not necessary to confine the patient to his bed, as after extraction. Remaining in the house for a few days, and taking care that the eye is well shaded, form the essential part of the after-treatment. Belladonna should be constantly applied, for some weeks, to prevent adhesions.

The pupil is not altered after the use of the needle, except it become adherent to the capsule. After extraction, even when not prolapsed or adherent, it may be irregular; for sometimes the iris does not recover its function at the spot over which the cataract escapes, and which has been most stretched.

INTRAMURAL BURIALS.—Interments in Spain, in churches, churchyards, and private burial-grounds are summarily interdicted, except as regards archbishops, bishops, and nuns. At Castello de Ampurias, in the neighbourhood of Figueras, (Catalonia,) the interment of a corpse in a cemetery, was riotously opposed by the inhabitants; and soldiers were obliged to be called out to quell the rioters.

ORIGINAL CONTRIBUTIONS.

RETROVERSION OF THE UTERUS AS A CAUSE OF STERILITY.

By EDWARD RIGBY, M.D., &c.; Senior Physician to the General Lying-in Hospital; Examiner in Midwifery in the University of London.

(Continued from page 281.)

In my last report I gave a case of retroversion successfully relieved by the application of the uterine supporter. I quote the following case as an instance of those cases which, as yet, have resisted all the means that have been adopted for their cure. There is no doubt but that most of them have been of such long duration as to give little hope of the uterus returning from a position or a curvature which had become habitual and almost natural to it, unless the lucky occurrence of impregnation shortly after the removal of the supporter had been the means of removing also the displacement.

S. B., aged 30, married ten years, suspects herself to have been pregnant once; tall, stout, and well made.

Nov. 9.—States that she has long suffered from dysmenorrhœa; the catamenia, though regular in their appearance, are scanty and filled with shreds; for three or four days before a period, she frequently has a puriform discharge, with pain across the loins and in left ovarian region. The bowels are confined; she complains of irritability of the bladder; the urine is thick; there is pain in the region of the sacrum, and on sitting down upon a hard seat. She has long been subject to a sensation of fulness and weight about the pelvis. She had only two catamenial periods before marriage; the first of which she checked by bathing with cold water, since which they have been attended with dysmenorrhœal suffering: supposes that on one occasion she had a very early abortion.

Examination per Vaginam.—Os uteri looking forwards; cervix very short; fundus turned backwards: I replaced it.

℞ Acidi hydrochlorici dil., acidi nitrici dil. aa. ʒij.; syrupi auranti, ʒi.; aquæ cinnamomi, ℥iss.; M. ft. mistura cujus sumat cochl. min. i., ter die ex aquâ.

℞ Sodæ potassio tart. ʒiss., om. mane.

℞ Linimenti camphoræ co. ℥ijss.; tinct. opii, ℥ss.; M. ft. linim. lumbis et sacro infricand.

Dec. 9.—Continued easier as regards the sacral and ovarian pains until the next period (Nov. 27); she had no pain previous to the period, except a moderate degree in the back for two or three hours before it came on, just where the pain ought to be on these occasions. She had little or no pain in the ovarian region, and no exudations in the discharge. The period lasted only two days; it was moderate the first day, and very trifling the next. The bowels have been more regular, and in better order; appetite and sleep are good; pulse weak; tongue clear, but pale; complains of vertix headache.

℞ Ferri sulphatis, gr. xvi.; magnesiæ sulph. ℥i.; acidi sulph. dil, ʒi.; syrupi rhœados, ℥ss.; aquæ menthæ pip. ad ℥viij.; M. ft. mistura cujus sumat cochl. magn. ij, primo mane vel bis die.

Feb. 17.—As her former symptoms had returned, I introduced the uterine supporter; being only a few days before the next period, the ivory peg passed with some difficulty and pain.

Feb. 20.—Kept her bed the rest of the day after the application of the supporter, but, since that, has worn it with less and less uneasiness, and has been up as usual; shortly after which she returned to her home in the country.

March 3.—Writes that she performed the journey successfully. The catamenia appeared upon the 1st. She says, "I have been much better in that respect than I ever was in my life."

April 4.—Has just passed another period, which was better even than the last, and came exactly at the right time, still she suffers a good deal of pain, and uneasiness at times, and has a considerable leucorrhœal discharge. After wearing the supporter two months it was removed, and she soon began to suffer again from her former symptoms. u-

strument was again applied. After wearing it for some time it was altered, so as to give the uterus still further inclination forwards. She wore it, in all, four months, but, on removing it, the symptoms of retroversion began to show themselves in a few days. I advised her to try the prone position as much as possible, but, beyond having improved in her general health, she does not appear to have benefitted as regards the displacement.

Although the treatment with respect to the retroversion was unsuccessful, still the temporary restoration of the uterus to its natural position was attended with effects which are interesting. Until the application of the supporter, the catamenia had been preceded by considerable dysmenorrhœal suffering, and attended with exudation, indicative of the ovarian irritation which so frequently attends retroversion of the uterus, and which had been aggravated, if not produced, in the first instance, by the suppression of the menses from cold. Both of these symptoms were very decidedly relieved by the application of the supporter, a fact which is also interesting, as a proof that the presence of this instrument was not a cause of uterine irritation during the catamenial period, but in this case a means of relief. The pain almost entirely ceased, the exudations disappeared, and she declared that the period had passed more comfortably than ever she had recollected it before. She still continues to use the prone couch, which, although it does not entirely cure the retroversion, nevertheless relieves it considerably; for not only have the menstrual periods been much better, but the general health has improved considerably.

H. D., aged 37; married 12 years; has been a widow for nine years; never pregnant; feeble.

April 3, 1848.—Complains of constant uneasiness, not amounting to pain, in the thighs, with a sensation of dragging and bearing down, whenever she exerts herself in the upright posture. Suffers also from pain in the last joint of the spine, which is increased for a week before the catamenial periods, and is accompanied by a sense of painful lassitude, which never entirely leaves her. Frequent palpitation of the heart; bowels inclined to be irritable and offensive; tongue rough and dry; urine turbid; much intestinal flatulence; was formerly subject to patchy flushings of eruption upon the face, which still appears occasionally when she is much agitated. Has been under the care of another practitioner, who detected the presence of retroversion, but found the system, both locally and generally, too irritable to bear the application of the uterine supporter.

Examination per Vaginam.—The uterus is retroverted. I replaced it, and recommended her to try the prone position.

℞ Extr. taraxaci ʒj.; liquoris calcis ℥viij.; M. ft. mistura cujus sumat cochl. magn. ij. bis die.

℞ Liq. plumbi diacetatis, ʒij.; decoct. papaveris ℥viij; M. ft. lotio.

April 6.—Looks and feels much better, and thinks that the medicine agrees well with her. She has for some years past been in the habit of applying leeches to the labia just before a catamenial period, in order to produce a sufficient relief to the system, as she supposes; this I strongly discountenanced. Rep. med.

April 9.—Catamenia came yesterday sparingly, but without pain. Rep.

May 5.—Feels better, but is subject to much mental depression; she continues the prone couch with comfort. Rep.

The retroversion, as in some of the previous cases, was probably in great measure dependent on general debility and want of tone, which she had tended not a little to perpetuate by the practice of applying leeches just before every catamenial period. The frequent palpitation of the heart—the continuous and painful lassitude, and feeble state of the general health, point to the same condition; and it is worthy of remark, that, under such circumstances, retroversion can occur as well in a patient who has never been pregnant as in the mother of many children.

I have selected this case as being one of the earliest in which I trusted entirely to the use of the prone couch; the extreme irritability of the system, both locally and generally, rendering the application of the supporter impossible. She experienced great relief from the use of the prone position, although the disposition to retroversion in her feeble and relaxed habit has never been entirely removed; and only within the last week I have heard from her, stating, that she continues to use the prone couch occasionally, and never has recourse to it without relief.

A. P., aged 38, single, tall, emaciated, pale, haggard.

June 25.—Complains of sensation of weight in the pelvis, with pain and heat in the left side, and hot smarting pain of the left groin. These pains are increased by confined bowels. The fæces are very small, and flattened, and will not pass without an enema. There is considerable irritability of stomach, continuing at times for several days, with derangement of vision, tinnitus aurium, headache and other anæmic and nervous symptoms; complains that as soon as she sits erect there is a sensation of something within her falling down. Was thrown from a gig nine years ago, and received a severe blow upon the sacrum, from which time she dates the symptoms of which she complains. She underwent a course of hydropathic treatment, but without success. After this she consulted another practitioner, who considered it to be a case of inflammation of the uterus, with hypertrophy, for which he applied leeches some sixteen or eighteen times, with other depleting measures. This plan of treatment lasted ten months, and left her very weak, and, as she expresses it, "the mischief, though subdued, still remaining." Says she cannot take tonics.

Examination per Vaginam.—There is no uterine enlargement; it is a simple case of retroversion, which was easily reduced. I enjoined the prone position. ℞ Acidi hydrochlor. dil. Acidi nitrici. dil. aa. ʒii., syrupi aurantii ℥i., aquæ cinnamom. ℥iss., m ft. mist. cujus sumat. cochl. min. i., ter die. ex aqua.

July 6.—Complains that she feels weak, that her appetite is bad, &c. &c.; but, on the whole, acknowledges to being decidedly better. The bowels are confined: tongue furred.

℞ pil. hydr. gr. iij., quinæ disulph. gr. ij., extr. coloc. co. gr. v., m ft. pil. ij. h. s. s. Let her continue the prone position.

℞ Confect. rosæ ℥i., acidi. sulph. dil. ʒi., decoct. cinchona, ℥xij. misce. coque, et cola bene, fiat mistura cujus sumat cochl. magn. iij. bis die.

July 13.—Thinks that the cinchona disagrees with her, but is manifestly better as regards the symptoms and effects of retroversion.

℞ Acidi hydrochlor. dil., acidi nitrici dil. aa. ʒi., extract. taraxaci ʒi., infusi gentianæ co. ad. ℥viii., m ft. mistura cujus sumat cochl. magn. ij. bis terve die.

July 19.—Bowels confined, but has lost most of her former aches and pains; felt obliged to discontinue the last mixture after a while; nevertheless, it has evidently done her good. Returns home.

℞ Extracti aloes aquosi ℈ii., extr. hyosc. ℈ss., mastiches gr. xij., m ft. pil. xv. sumat i. ij. h. s. Rep, mistura. p. r. n. A seidlitz powder occasionally.

September 5.—Writes word that the prone position has relieved and strengthened her; she resorts to it as a remedy for pain; complains of suffering from indigestion, but moves about much better.

I have weeded my report of a long list of aches and pains which this patient enumerated; suffice it to say, that she had become much emaciated, and entirely confined to her sofa for some time, being unable to make any exertion without bringing on severe pain. That the fundus uteri had exerted considerable pressure on the rectum is evident from the compressed state of the fæces, and their inability to pass without the aid of an enema; that it was tolerably moveable in this displaced state may be inferred, not only from the fact, that I replaced it with great care, but that she had the sensation of something falling within her when she sat erect.

There can be little doubt but that the retroversion was produced in the first instance by a severe fall on the sacrum. The depleting measures which were adopted relieved for a time the sufferings arising from the congested state of the uterus, but, as the cause remained untouched, they quickly returned as before. The irritability of the system and constitutional disturbance which had resulted from the displacement were probably a good deal aggravated by the weakening effects of the treatment; her own prejudice against tonics did not improve this evil, and it was with some little difficulty that I overcame her objection to take the simple mixture of nitro-muriatic acid, which in the first instance I prescribed for her.

OBSERVATIONS ON THE RECENT EPIDEMIC CHOLERA.

By GEORGE ROSS, Esq., late Medical Officer of the West London Union, author of "Lectures on the Asiatic Cholera," &c.—Medical Times.

The Registrar-General has stated, in his last Report, that the West London Union "has been the most fatal district north of the Thames;" and as I was appointed by the guardians of the Union to take charge of the cholera cases occurring in the parish of St. Bride's and a portion of St. Sepulchre, where the largest number of cases occurred, I had abundant opportunity of acquiring a knowledge of the disease. My personal experience has enabled me to qualify and correct some parts of my former writings, which were merely the result of an examination and collation of the observations of others. These corrections, however, will not tend to subvert any principles already adduced, but rather give precision and clearness to many points then left obscure. In my lectures on cholera, which were published last year in this journal, I formed my inductions from facts, and carefully avoided attaching any value to opinions, and as well observed facts will exhibit the same characteristics and involve the same inferences in 1849 as in 1832, the conclusions then formed are not likely to be perilled by future inquiries. We must hope that new principles may be discovered, our ignorance dissipated from many dark crypts, and the circle of our knowledge extended; but hitherto, neither much illumination nor progress has been effected. The recent observations of Messrs. Brittan and Swayne, especially in reference to the presence of the principles of the urine in the choleraic evacuations, are of considerable interest. It is not, however, my object at present to review the labours of others, but merely to record such observations as have pressed their importance upon my own mind.

When cholera first ravaged the West London Union, the number of cases of diarrhœa was small, as compared with what it afterwards became; and the cases of cholera were peculiarly unexpected and fatal. Before my appointment as "public officer," I had seven cases in private practice under treatment at the same time, five of whom died. One only of these five, however, died within the twenty-four hours; the others lived to periods of five, nine, and ten days. Each of those persons had been previously subject to biliary disorders, and one of them had been attended by me last year for bilious purging, terminating in rice-water evacuations. This patient succumbed. In all these cases there was, therefore, a predisposition to cholera, and in some of them sickness, diarrhœa, and uneasiness at the stomach had existed for some time previous to the attack assuming a character sufficiently imminent to alarm the patient.

At this period, and for six weeks after, the disease was of a different type, or bore a different relation to other diseases from what it subsequently assumed. This difference was very remarkable, and, to a great extent, accounted, in my judgment, for the varieties of opinion as to the pathology and treatment of the epidemic that have been promulgated. During this early period the concurring disease was ordinary bilious cholera, and the epidemic cholera appeared to be nothing more, in many instances, than an aggravated form of the simpler disease. The rice-water stools were generally preceded by bilious vomiting and purging,

and, in one or two remarkable instances of prolonged duration, I observed an alternation of one with the other—sometimes the liquid rice-water, and at others the bilious purging.

In the notes of a case now before me, I find that it commenced with bilious purging. The evacuations then became rosy, liquid, and flocculent, like the washing of fresh muscle, and were accompanied with suppression of urine. The dejections were afterwards brown and feculent. On the following day, the matters vomited were tinged with bile; but the intestinal evacuations had all the characters of rice-water purging, and at this period decided collapse was established.

As a general rule, the more profound the collapse the more limpid and colourless will be the intestinal discharges; but if the inexperienced practitioner should expect to find, in every case of cholera, the white liquid stools described as pathognomic of the disease, he would be grievously disappointed. The watery evacuations are generally tinged of a dirty brown colour, and the virgin-white rice-water stool is a rarity. The ordinary colour is a dirty ash or light brown; it is occasionally shaded with yellow, or is of a light rose colour, or plain white.

During the first six weeks of the prevalence of the epidemic in this part of the Metropolis, th disease exhibited no signs of complication wit diseases of an inflammatory type. Whilst tl patient was in collapse, the pulse was generally 12 in the minute, but I observed that the tongue wa natural, or only very slightly furred at the root. I seemed as if the patient had been struck with tl disease in the midst of the ordinary healthy per formance of his vital functions. By far the greate number of my cases at this period died during th stage of reaction, and I had opportunities of watch ing them narrowly, so as to form a clear estimat of the value of every symptom.

The stage of re-action has been called the *febril* stage, and elaborate theories have been based on th notion. The fever is generally termed typhoid; b I have seen a great deal of typhus fever, and hav already delineated its nature and symptoms wit much minuteness; and I am prepared to assert, that during the re-action from the collapse of an uncom plicated attack of Asiatic cholera, there are n symptoms that bear any analogy to typhus fever.

The course of the disease emerging out of col lapse is this:—The pulse, from being about 120, o: inconstant, and almost extinct, becomes full, and falls to 100 or 90, the face flushes, the dampness o the surface disappears, and the hands and feet acquire warmth. This febrile stage will continue on the average 36 hours, at the end of which time the pulse will commonly fall to its natural standard but the tongue, when the case is likely to terminate in death, becomes covered with a greenish brown moist coat, and its breadth seems to be even greater than natural. This kind of tongue has, no doubt, given rise to the notion of the typhoid character of the disease; but most unjustly, for no one ever saw such a tongue in typhus. The tongue in typhus is generally *contracted and dry*, and the fur is browner than the peculiar greenish-looking moist coat in cholera. Besides, during this period of the reaction there is absolutely no fever; the skin is generally warm and natural, or perspiring, and the pulse in some cases, as in a report of one now before me, not more than 72. I have seen several patients exactly in this condition; they have seemed all but well, have actually dressed themselves, and I have profoundly regretted that I have not been able to avert the death that awaited them. I emphatically state, that a patient may remain in this condition, without any sign of fever, for three or four days, as it were balancing between life and death; and these days are precious, for they afford opportunity to the medical man for the exercise of his saving art. These days past unimproved usher in death. During this time there is suppression of urine, and this symptom, together with the peculiar condition of the tongue, seem to be the only abnormal signs requiring attention. The urea retained in the blood is poisoning the system, and gradually affects the brain. This state is peculiar, but is altogether different from typhus fever, and never could be mistaken for it except by a blind and undiscriminating theorist. I have heard it described as "delirium tremens," which it far more resembles than typhus fever. Cholera in the concrete has been likened also to an intermittent fever, but without any sufficient evidence to support the analogy; and I believe that the strongest evidence of that opinion is furnished by myself in these very observations; but, in truth, my perceptions can discover no such similitude. If the suppression of urine not removed, and the exhaustion of the system not restored during the few days left for the administration of remedies, a febrile state will sometimes again set in. The pulse quickens, and the face flushes, whilst the extremities remain cold; the trunk, however, acquires increased warmth; and, notwithstanding these delusive symptoms the patient eventually dies. At this period, thickness of utterance, tumefaction about the throat, and delirium, are well marked. This state may remain also for twenty-four or thirty-six hours. I do not regard these as two paroxysms of intermittent fever,—the first febrile stage appears due to the specific poison of cholera; the second to the poisoning by urea. I have observed, that when patients have died in collapse, a very considerable augmentation of the heat of the body has in some instances taken place a few hours before death; and I apprehend, that this morbid action has misled numerous Practitioners, as it did myself in the first cases I attended, in forming an opinion upon the influence of the medicines they have administered; for nothing is more common than to read, that calomel, or salt, or brandy, or galvanism, or what not, succeeded in restoring the heat of the body, but that, notwithstanding, the patient died. All such statements it must be suspected were set down in error. I shall dilate more upon the treatment of this disease during the stage of re-action at a future time.

From about the middle of June, when the disease first appeared here, to the beginning of August, I had seen no cases of colic, as distinguished from bilious cholera; but on the 2nd of this month several patients applied to me who were suffering from a violent twisting spasmodic pain in the bowels around the umbilicus, and I had hopes that the epidemic was about to change its character, but I was deceived. These cases of colic prevailed for two or three days, then disappeared, and I have not seen another up to this time. I think this observation of considerable interest as respects the natural history of the epidemic, but I can give no explanation of it.

A peculiar epidemic constitution of the atmosphere, producing similar results, occurred about July 6. On that day and the following, several ersons, generally women, applied to me under rious forms of heart affection; some complained of severe lancing pain under the left breast, others of violent palpitation; and these cases were occasionally accompanied with, or terminated in, convulsions, either hysterical or epileptic, with external ongestion, or delirium. Six of these cases occurred n one day, and I referred them to some unknown ause existing in the atmosphere. A Practitioner n full employment in a given locality cannot mistake the peculiar significance of such diseases. I nce saw a young woman who had been struck by ightning, and for many days she remained in a eculiar hysterical state, resembling very much the ndition of these patients.

Although none of these cases died, yet I was apprehensive for the fate of more than one of them, nd I have no doubt, that those cases of cholera, called, in which no vomiting or purging has been bserved, are cases of this character, and are produced by the same cause. I have never seen a ase of cholera without vomiting or purging, and ave doubts about the propriety of assuming that ere are any such cases; but I am quite willing to dmit, that in a particular condition and temperture of the atmosphere, patients may be struck own suddenly, and death take place by arrest of e heart's action, and universal congestion. This ppens frequently in India, and the cases I obrved were, no doubt, of a related character; but, I think that it is imprudent to call them cholera, or dry cholera, or any other name that may mislead the judgment.

I shall conclude this paper, with a brief description of cholera, as it appeared during the last six weeks of its visitation. From about the middle of August diseases of a gastro-enteritic type began to prevail, and it was often very difficult to draw the line of demarcation between pure gastro-enteritis and cholera. Symptoms of gastro-enteritis would exist for a few days, accompanied with vomiting and purging of a fluid, in all respects resembling the ordinary ejections in cholera, and, at last, collapse would suddenly come on, and death close the scene. Premonitory symptoms, as they are called, were noticed for some days in this form of disease, but these premonitory symptoms were, in fact, a specific disease. Cholera, it might be said, was induced upon them. In these cases, the tongue, instead of being natural, as it was during the first period of the epidemic, was red at the tip and edges, and was covered with a slimy coat, or was even clean and raw-looking like a slice of beef; there was also more pain and soreness across the epigastrium and abdomen, and occasional accessions of fever. Such cases were rife; and cholera rarely occurred at this period, unless complicated with this form of disease. A stranger first seeing a case of cholera at this time would be led to consider it a form of gastro enteritis, and be the advocate of leeches and depletion; whilst another, who had an opportunity of observing the disease only in the earlier periods, might become the eulogist of an opposite plan. I am particular in defining these distinct manifestations of the disease at different periods; because, until I had an opportunity of observing the disease upon an extensive scale, I had no means of reconciling the discrepant opinions formed by men of equal powers of observation and medical skill respecting the pathology and treatment of cholera.

I apprehend that upwards of one-half of the deaths reported as the result of cholera to the General Board of Health, during these last two months, have been the consequence of gastro-enteritis, intensified by the epidemic influence abroad in the air or water. I feel satisfied that many of these cases ought to have received another denomination, as I am quite sure that the treatment they require, is, in many respects, different from what would be beneficial in genuine cholera. During the stage of re-action pyrexia was almost invariable, and was dependent upon the inflammatory state of the stomach and bowels, and, towards the last few days, typhoid fever set in, and ultimately carried off the patient. The typhoid fever, however, though following cholera, had no direct relation to it, but was essentially a part of the gastro-enteritis. The re-action, therefore, in these two forms of the disease, manifests different symptoms, and requires different treatment.

Cholera, then, must be considered in reference to its complication with gastro-enteritis or otherwise, and it will thus be seen by any reasonable man, how absurd must be those systems of treatment which are required to be applied indiscriminately to all forms of the disease, upon the assumption that cholera has but one set of symptoms, and stands out independent of all complications,—a model disease to be cured by an infallible remedy. The Profession may depend upon it that they will never be able to discard observation and judgment, or to set at naught established principles of therapeutics in the treatment of this formidable disease. The man who asserts, that he has a specific for cholera, and who attempts to deprive us of our right of judgment by binding us down arbitrarily to certain empirical forms of cure, without reference to time or circumstance, is a quack,—not the less censurable, because, perhaps honoured with a doctor's gown, and doing lip-service to legitimate medicine.

WAR MEDAL.—T. H. B. Grosse, Esq., surgeon, of Kempsey, has received a medal in acknowledgment of his services on board H.M.S. Musquito, in Sir Edward Codrington's action off Navarino, October 20th, 1827.

HOSPITAL REPORTS.

ST. THOMAS'S HOSPITAL.

DEATH FROM CHLOROFORM.

John Shorter, age 48, a porter, known to Mr. Solly for some time as a very active messenger. Habits intemperate, but apparently in perfect health, was admitted into George's Ward, under Mr. Solly, on the 9th October, 1849, suffering from onychia of the left great toe, which had existed some time. It was determined to remove the nail, the man having decided, before entering the Hospital, on taking chloroform. On Wednesday, 10th October, at a quarter to two p.m., he began to inhale the chloroform, with one drachm in the inhaler. It had no visible effect for about two minutes. It then excited him, and the instrument was removed from his mouth, and about ten drops more were added. He then almost immediately became insensible. The chloroform was taken away from his mouth and the nail removed. He continued insensible, and his face becoming dark, the pulse small, quick but regular, respiration laborious, his stock was removed and the chest exposed to fresh air from a window close to the bed; cold water was dashed in his face, the chest rubbed, and ammonia applied to the nose. After struggling for about a minute he became still, the skin cold, pulse scarcely perceptible, and soon ceased to be felt at the wrist; respiration became slow and at intervals, but continued a few seconds after the cessation of the pulse. Immediately on the appearance of these symptoms artificial respiration was commenced by depressing the ribs with the hands and then allowing them to expand again until the proper apparatus was brought, when respiration was kept up by means of the trachea-tube and bellows, and oxygen gas introduced into the lungs by the same means. Galvanism was also applied through the heart and diaphragm; but all signs of life ceased in about six or seven minutes after the commencement of inhalation. These means were persisted in until a quarter past three, but to no purpose. On removing the inhaler, the sponge, which only contains one drachm, fell on to the floor, and the chloroform splashed about, thus showing that considerable part of the chloroform remained unused, so that he could not have inhaled more than a drachm. Every endeavour was made to procure a *post mortem* examination, but in vain.

VINCENT'S HOSPITAL.

DISEASE OF THE HEART.

A man, aged 57, admitted under the care of Dr. O'Ferrall on account of laborious breathing and anasarca. His lips, cheeks, tip of the nose, and hands were of a purplish hue. He frequently sought relief, by kneeling and resting his head upon his crossed forearms placed on the bed. In this position, in which his hips were higher than his shoulders, he would remain for hours. His extremities were cold; the pulse almost imperceptible at the wrist; when detected it was found to be irregular and frequent, and of extreme minuteness. When his chest was examined in the sitting posture, it was comparatively dull posteriorly, especially towards the base, where a submucous crepitus was audible. In front, it was rather clear on percussion, and the respiration feeble, with but few rales. No pulsation in the proper cardiac region; the heart could be felt throbbing behind the xyphoid cartilage. A loud systolic *bruit de soufflet* was audible in this situation; its intensity was greatest about two inches to the left of the xyphoid cartilage. There was no morbid sound along the course of the aorta. Urine scanty and high coloured.

An attempt was made to relieve him by mercurial and diuretic treatment, aided by cupping the posterior part of the chest. His dyspnœa was occasionally relieved by diffusible stimuli, and he was allowed nourishment. After a few days, mercurial fœtor was perceptible from his breath, and he expressed himself a good deal better. The anasarca of the limbs still continued, and the pulse remained filiform as before. The dispnœa again returned as bad as ever, and he at length succumbed.

Autopsy.—The sternum being raised, the anterior half of both lungs presented the emphysematose condition in a remarkable degree, the pericardium lying lower down and more to the middle line than in the natural state. About eight ounces of sanguinolent serum were found at the posterior part of either chest. The lungs in these situations were dark-coloured, congested, but still crepitating when pressed between the fingers. The pericardium being opened, the heart was found remarkably large; two-thirds of its bulk consisted of the enlarged right ventricle which formed the apex of the heart. The auricles were remarkably distended with blood. On section, both ventricles contained solid blood of the colour and consistence of black currant jelly. When the chambers were washed, the aortic valves were found healthy, and more than competent to close the aorta, the dimensions of which were smaller than usual. The right, or anterior portion of the mitral valve was shorter than usual, so that when drawn in front of the left auriculo-ventricular opening, and made to approach its fellow, it left a cribriform passage towards the left auricle through the tendinous cords. A few points of thickening could be felt in the larger portion of the valve, but there was no atheromatous or calcareous deposition whatsoever. The auriculo-ventricular aperture was, at the same time, very much larger than natural, and readily permitted three fingers to pass together into the auricle. There was no evidence of morbid change in the walls of this aperture. The auricle itself was considerably dilated, as well as the right auricle and ventricle.

Remarks.—Considering the dimensions of the left auriculo-ventricular aperture, and the mechanical condition of the valve, there can be no reasonable doubt, that a considerable proportion of the blood upon which the left ventricle contracted, returned at each systole into the auricle, while little passed into the aorta. The character of the pulse was thus satisfactorily accounted for, and the diminished calibre coincided with this explanation, and marked the habitually diminished current through its tube. The evidence of this reflux was next observable in the dilated left auricle, the congested lung, the large pulmonary artery, the dilated right auricle, and large dimensions of the right ventricle, which in this case formed the apex of the heart.

It is not unusual for anatomists seeing the body for the first time in the dissecting-room, and entirely unacquainted with the previous history of the disease, to announce that there is very little the matter with the valve, unless it be studded with vegetations, or filled with calcareous deposits. If the inadequacy of a shortened valve be pointed out, and its want of relation to a dilated orifice, they will perhaps say, that the two laminæ of the mitral valve come together in proportion as the ventricle contracts, and that thus the cribriform aperture is obliterated; and hence they conclude that no regurgitation could have occurred. Now, it may be readily admitted, that when the ventricle has contracted on its contents, the two portions of the valve may come together, so as to close even a dilated orifice; but it is evident that this is too late to prevent reflux, and that, at the point of time when they come in contact, regurgitation and its physical signs have already taken place. At the time when the ventricle commences to contract, its orifice is patulous, and its cavity is distended with blood; its first systolic effort, therefore, must be attended with a reflux through the auriculo ventricular opening, as well as with a normal current through the aorta; and this is all that is necessary to produce the phenomena of the present case.

PROGRESS OF MEDICAL SCIENCE.

FRANCE.

(From our Paris Correspondent.)

I can at length positively announce to you the complete disappearance of epidemic cholera from Paris. For several days not a single fatal case has occurred, either in hospital or private practice. There will be, of course, a dropping case, from time to time, and it is possible that we may experience a second visitation, even more serious than the first; but for the present we are free, and it is useless to speculate on possibilities—"Sufficient for the day," &c., as the proverb says.

The accounts from the south of France are likewise more encouraging. Indeed, the warm imaginations of our southern friends seem to have aggravated, in no small degree, a state of things by no means so dangerous as was represented. Fear, like drunkenness, sometimes makes people see double. From the southern ports the epidemic has extended to Algiers, and thence is now spreading to the foot of the Atlas. In the town of Algiers itself, the population, and more particularly the garrison, has suffered very severely. Of 909 soldiers attacked, 523 have died, being about one-fifteenth of the effective force of the place.

This is exactly the same proportion of mortality which prevailed amongst the soldiers of the garrison of Paris—a fact which shows how little the epidemic seems to be modified by climate. Another point worthy of attention, and which fully confirms the remarks of Dr. Budd, in an excellent lecture, published in your last number, is the immense proportion of medical attendants who were attacked in the military hospitals of Algiers. Of 179 infirmary attendants, no less than 51 died of cholera; and we may conclude that 100 at least, or three-fifths of the whole, must have been attacked by the disease.

In presence of such a fact, it is impossible not to conclude with Dr. Budd, "that the disease is, in some way or another, infectious." Indeed it may be questioned whether the records of fever hospitals ever presented a more striking example "of great concentration of the poison in particular places." The greater part of the victims alluded to had recently arrived from the military hospitals of the south of France, together with thirty military surgeons, on supplementary service. Many of these latter have also been cut off. Five hospital surgeons at Lyons have already perished, and the last accounts from Marseilles bring the news of the death of M. Mathieu, head physician to the Hotel Dieu of that town, and a young practitioner of the highest promise.

We were somewhat astonished here at the noise made in England about the phenomena which attended the death of young Mr. Blythe. The persistence, or rather development of animal heat after death from Cholera, was a phenomenon we thought familiar to every medical man who had any experience of the disease. But some practitioners cannot live unless people talk about them, and a few of the Bristol folk appear to belong to this category.

The following is a case just as curious, but I do not, of course, vouch for its authenticity.

"A comfortable burgermeister of the city of Utrecht was attacked by cholera, and cut off within a few hours; at least, his friends thought that he was dead, and so interred him without loss of time, through fear of contagion. The deceased, or rather the supposed deceased, had received a large sum of money, amongst which were a few banknotes, shortly before his attack; but the notes were not forthcoming. It was then remembered, that the unfortunate man had been buried in his breeches and dressing-gown—the same through fear of contagion. Permission to exhume the body was obtained, and the precious notes discovered in his breeches' pocket; but, alas! the unhappy proprietor was found turned on his right side, and, in despair, had eaten three of his fingers."

The above is related by the *Kamper Courant*, and the Dutch are a serious people; but, *Credat Judæus*. *Apropos* of premature interments I may notice briefly an excellent work by Dr. Bouchut, "On the Signs of Death," which has recently received a prize from the Institute.

Dr. Bouchut distinguishes the signs of death into two classes—the immediate and the remote. The immediate are those which indicate cessation of the functions of the heart, lungs, or brain.

The immediate signs connected with the heart—and these are infinitely the most important—are

Prolonged absence of the pulsation of the heart, or auscultation.

Cadaveric aspect of the face. Loss of transparency in the hand. Absence of bullæ and the inflammatory circle, after burning the skin.

Of these phenomena, cessation of the heart's pulse determined by auscultation, is the principal. According to the author, and to the Committee of the Institute, it is a *certain* sign of death. In all the experiments made on the subject, life was found to be irrevocably extinct, after the heart had ceased to beat for six or seven seconds. But, to avoid all error, the Committee propose extending the period to *five minutes*; and they also add, "Provided this absence of pulsation be immediately followed, if it has not been preceded, by cessation of the respiration, and of the functions of motility and sensation." This latter clause has been added to meet the observation of some medical writers, who pretend "that in yellow fever, thymic asthma, &c., it has been impossible to discover, with the stethoscope, for a long time, any pulsation in the heart, although respiration and other vital phenomena continue."

In addition to the proofs derived from experiments on animals, Dr. Bouchut shows clearly, that in all cases of apparent death—and particularly in those connected with asphyxia and syncope—the heart never ceases to beat for a moment. The pulsations are slower, but never completely suspended. This is demonstrated for the apparent death of new-born infants—for all kinds of syncope—for the most perfect forms of lethargy.

Having thus demonstrated, that we possess a certain sign of death, viz., absence of the heart's pulse for a few minutes, discoverable by auscultation, it becomes a matter of no importance to consider the accessory phenomena, derived from the state of the lungs or brain.

The same fact likewise points out the inutility of those mortuary houses in which bodies are preserved in Germany until the first signs of putrefaction set in.

Some interesting cases worthy of record have recently occurred in our hospital practice here. The first which I shall notice was one of

ŒDEMA OF THE GLOTTIS AND LARYNGOTOMY.

The patient, a female servant, 30 years of age, was exposed, while in church, to a cold draft of air. On returning home, she felt some pain in the throat, particularly on the left side; had frequent accesses of suffocation, and fever with headache. She was admitted into the Hotel Dieu on the following day; the symptoms were now much aggravated. The countenance was cadaverous, respiration difficult and sonorous, voice feeble but clear; frequent accesses of suffocation, which cause great anxiety to the patient, and are reproduced by every attempt at swallowing. Pulse 112, without much heat of skin. On passing the finger deeply into the fauces, an annular projection was very distinctly felt at the superior orifice of the larynx.

Although there was no immediate necessity for operating, M. Roux advised the performance of laryngotomy, because the surgeons would not visit the hospital again for twenty-four hours, and it was impossible to say that dangerous symptoms might not set in during that interval.

The operation was, therefore, performed on the spot. It gave immediate relief to the patient. In the evening, thirteen ounces of blood were taken from the arm by way of precaution; and from this time up to the eighth day, when the patient was convalescent, not a particle of medicine was administered, if we except an emollient enema on the fourth day.

The rapidity of the cure in this case, and the simplicity—indeed, one might say absence—of treatment after the operation, are points worthy of notice. An English surgeon might not have felt himself justified in having recourse to tracheotomy at so early a period of the disease; but the rapid convalescence was in all probability mainly due to this circumstance, inasmuch as the patient remained free from the pulmonary engorgement which generally sets in whenever the operation has been delayed in cases of this kind.

Another point to which I may briefly direct attention is, the extreme simplicity of the after treatment. The case, in fact, was left to nature, and proceeded to a perfect cure just as rapidly as if it had been treated on the most "scientific principles"—that is to say, with purgatives, acetate of ammonia, opiates, and the other ingenious modes of administering drugs, so familiar to the English school. It may be also well to observe, that no effort to vomit was excited by the contact of the finger with the epiglottis and upper part of the larynx, during examination of the throat. It would appear, that when the epiglottis is inflamed, it loses that special sensibility, in virtue of which vomiting ensues when the organ is touched.

GANGRENE OF THE SCROTUM—AUTOPLASTY —USE OF COLLODIUM.

Although gangrene of the scrotum, giving rise to more or less complete exposure of the testicles, has frequently presented itself to the practice of surgeons, few efforts have been made to remedy this distressing accident in a scientific manner. In some cases the whole of the front of the scrotum has been destroyed, and, as cicatrization advances, the wound contracts behind the testicles, thus increasing the exposed condition of these organs.

In such extreme cases surgeons have been usually content to leave the cure to nature, when the testicle is finally covered by a thin and imperfect cicatrix. M. Malgaigne, one of the most rising young surgeons of the French school, has acted differently. In two cases of the kind alluded to, he separated the adherent edges of the wound from the testicle, formed a cavity behind in what remained of the scrotum, and united the edges in front of the testicle with the twisted suture. These two cases were completely successful. The following case, somewhat analogous, is a striking example of the resources of surgical skill under the most unfavourable circumstances:—

A soldier of the 32nd Regiment was admitted into hospital with complete exposure of both testicles, the consequence of gangrene of the scrotum after small-pox. The wound was cicatrising, but the loss of substance had been so great, that the cicatrix, in contracting, pushed the testicles forward, and thus exposed them more and more every day. It was, therefore, resolved to imitate the practice of M. Malgaigne, and endeavour to unite the remnant of the envelope in front of the organ. The patient was placed under the influence of chloroform, and within a minute fell into a deep sleep. The skin was now separated from the lateral and inferior portions of the cicatrix, and the dissection carried back sufficiently to allow of the integument being brought forward so as to cover the testicle completely. The edges of the wound were then rendered smooth with the scissors, brought forward and united in front along the median line, by five points of the twisted suture. A small branch of the pudic artery was tied. The usual dressings, supported by a suspensory bandage, were next applied, and the patient replaced in bed. On the fourth day after the operation, it was found that the needles had cut through the skin; that the flaps showed no disposition to unite, and, moreover, were so attenuated as to prevent the use of diachylon straps. Under these circumstances, the Surgeon had recourse to the use of collodium. Two small pieces of linen, cut into the shape of two cutaneous flaps, were imbibed with collodium, and then applied along the external surface of the wound, on both sides, from above, downwards. Six short ligatures were then glued, in pairs, and opposite each other, with the same substance to the linen bands,—one pair just under the penis; the other at the middle of the wound; the third near its inferior angle. On tying together these ligatures, the edges of the wound were brought together, completely in front of the testicles. This apparatus was allowed to remain undisturbed for six days. On removing it, the flaps were found adherent to the subjacent surfaces, and also by their edges, except at the superior and inferior angles. Here were some exuberant granulations, which were touched with the nitrate of silver. A fresh dressing, similar to the former one, was now applied, and allowed to remain for four days longer. At the expiration of this period, the whole of the wound was completely united, with the exception of a few lines at the lower angle, and even this cicatrised on the thirtieth day. The scrotum then presented, in every respect, a normal aspect.

The practice adopted in the above case is well worthy of imitation, under analogous circumstances. It would, however, appear advisable to have recourse to the collodium at once, instead of wasting time by an endeavour to unite the edges of the wound with the twisted suture. In cases of this kind, the surface of the exposed testicle is almost always in a state of suppuration, and it is extremely difficult, if not impossible, to make the sound skin adhere to this suppurating tissue through the medium of suture.

GERMANY.

[From our Berlin Correspondent.]

The cholera returns have greatly diminished. But when we remember, that, in the present year, the disease having left Breslau and returned to it with increased virulence, we can scarcely venture to hope that Berlin has shaken off the scourge. The four provisionary Cholera Hospitals, however, are closed, we trust not to be re-opened. There is some talk, however, of erecting a permanent Cholera Hospital, people thinking that the disease, like democracy, can never be chased from the German vaterland. Among Medical men, those of the cold water establishment have suffered most severely. They inundated the newspapers with the wondrous results of hydropathy and their mode of treating cholera; but, alas! no less than eight of their number died of that disease.

The annual meeting of the German Naturalists lately occurred at Regensburg, in the Town-hall, where the Diet was held. The meeting seems to have given some uneasiness to the Government since they refused their usual contributions to its funds, hoping by these means to prevent social reunions and dinners, which might lead to speakings more plain than pleasant to their ears. Nevertheless, though the gaiety and *bon esprit* of former years were in a great measure absent, banquets did take place, concerts were given, and the excursions to the neighbourhood numerously attended.

In science nothing very great occurred. A paper on Climatization, by Professor Kolenati, of Prag, excited some attention from the theory he propounded, that men shed their skins as other animals their coats, and that like them, they assumed a thicker or a thinner covering—a natural skin he meant—according to the climate in which they resided. When this change is effected, man is said to be "acclimated."

In Saxony and Wurtemberg medical reform continues to be agitated, and new modes of teaching, examining and appointing, to medical situations under the Government to be proposed. It is demanded, that no "pures" shall exist; that all shall practice generally, and that medical men be allowed to dispense their own drugs.

Your readers will regret to learn, that the celebrated anatomist and physiologist Tiedmann, of Heidelberg, has retired from public life. Grief for the loss of his son, who, as commandant of the fortress of Radstadt during the revolution, was shot by the Government of Baden, has led to his retirement.

Busch, the well-known Professor of Midwifery, has been elected "Rector Magnificus" of the University of Berlin.

From Russia, we learn that Professorships of the Theory and Practice of Medicine have been founded in the University of Dorpat. The chairs are well endowed; and have also retiring allowances for the Professors, and pensions for their widows and orphans.

ON THE STRUCTURE OF THE LIVER. BY A. RETZIUS.

The chief results obtained may be summed up as follows: That the liver is essentially lobular, but

that the lobular form makes its appearance in several different stages of development and retrocession, with a blending of the lobules in conjunction with more or less regular development of the ramifications of the hepatic veins. What principally shows the presence of the lobular type is the constancy of the alveolar network of the biliary tubes. 2. That the biliary conduits, with their proper walls of basement membrane, are certainly tubes. Retzius has completely proved the presence of this membrane, in accordance with the description of Schröder van der Kolk, namely, as a simple membrane, which invests both the angular and round cells of the liver. It may be demonstrated, by removing from a liver first macerated in ether, and afterwards dried in extremely thin slices. These are placed in water to render them transparent, whereupon they exhibit the proper membrane of the finest network of the biliary tubes, in simple outline, enclosing the cells above mentioned. 3. Retzius was unable to discover any arterial net in the capsules of Glisson. —"Mueller's Archiv," 1849, No. 2, p. 169.

SCOTLAND.

[From our Edinburgh Correspondent.]

PROFESSOR WALSHE'S VIEWS.

We have felt much indebted to the *Medical Times* for putting into our hands the Introductory Lectures of Professors Walshe and Farre, at the opening of their respective schools. We have read, also, with interest, the Editorial Article on these two lectures in the last Number of the *Medical Times*. We are not all of one mind in Edinburgh on such subjects as are handled in these lectures. There is, however, a very general impression here, that the Medicine of the day expends its activity so largely on matters of detail, as very much to exclude discussions involving just conceptions of Medical Science, and the exact adjustment of the principles on which its improvement can be carried forward. We therefore, in general, hail the publication of these lectures as a sign of a growing attention to the means of ascertaining and making apparent to the Profession at large, the real position at present of Medicine as a Science and as an Art. In Dr. Walshe's lecture, there is little to which we cannot subscribe when we have fairly caught up the sense in which he designs his words to be understood; but we think, in not a few instances, he has set up a phantom for the purpose of cutting it down with effect. Again, we fear he has guarded himself too little against being misunderstood by the student, and being represented as considering physiology as either hurtful, or as affording no aid in the cultivation of Medicine. He admits, it is true, "that physiology may be considered as suggestive of points of inquiry in pathology, and as establishing a standard of reference for morbid conditions and processes." But this seems like a concession extorted from him; nor are the words in which it is couched like those of one who feels the real bearing of physiology on the cultivation of medicine. In reality, however, this admission is a sufficient ground for claiming his testimony to physiology being the essential basis of pathology. We should like to learn how any researches into the constitution of the blood in diseases could deserve the name of pathological, unless the physiological constitution of the blood, and all its variations within the limits of health, were previously ascertained. Nay, can we trust any pathological conclusions as to the peculiar alterations of the blood in diseases, unless the analyst be physiologist enough to determine the normal condition of healthy blood? Again, can auscultation or percussion indicate any pathological condition of the chest or abdomen, until the signs of the normal condition of these cavities have become known to the inquirer? Here, then, also, physiological must precede pathological observation; or this diagnostic pathology, like every other form of pathology, implies a previous acquaintance with physiology. If it be said that a man may be a discoverer in pathology without having been a discoverer in physiology—be it so—does this prove pathology to be independent of physiology? It amounts merely to this, that within certain narrow limits there may be a division of labour, so that, if a physiologist has previously determined certain facts, then the pathologist may proceed on these facts in his further inquiries; but here again the inseparable dependence of pathology on physiology meets us. In short, pathology is not inseparable from physiology by any absolute line of demarcation. Physiology is the science of life, and, therefore, in its strictest sense, it includes pathology. Under this view, medicine is merely a department of physiology. But, to waive this idea for the present, in all the pathological states of the living body, the physiological laws are still operating, only under a certain modification; and, therefore, unless pathology be confined to signify mere morbid appearances discoverable after death, physiology is always co-existent with pathology. One part of the admission made by Dr. Walshe in favour of physiology—namely, that physiology may be considered as suggestive of points of inquiry in pathology, is not a great concession. It is more true that physiology suggests many points for inquiry as regards the treatment of diseases; and it is less suggestive of inquiry in pathology, because, what is special in pathology mainly consists of facts, while its principles are, in general, merely modifications of the principles of physiology. Let Dr. Walshe lay down what he thinks the most correct view of the acts which constitute inflammation, and he will at once discover that he is all the while discoursing of a not very considerable modification of the normal or physiological capillary circulation. No doubt it is quite true, and in this we entirely agree with the learned lecturer, that the most exact knowledge of the normal capillary circulation does not suggest the knowledge of that modification of it which constitutes inflammation. For the discovery of what creates the difference between its normal form and the anormal form, termed inflammation, must be the result of a judgment founded on particular observation. But, on the other hand, the most patient observation and the most exact judgment will altogether fail to determine what inflammation is, unless the physiology of the capillary circulation be first made fully apparent; and it is manifest that the obstacle at present to a satisfactory account of the process of inflammation, is not so much the want of zeal in pathologists to observe the anormal state, as the want of power in physiologists to explain the essential nature of the normal capillary circulation. For though physiology may be cultivated without pathology, it is impossible to take a step in pathology without physiology.

The Professor, we make no doubt, conceives that he has admitted all that we say; but yet we cannot help repeating that his lecture leaves an impression on the mind, undesigned as it appears to be, that physiology is really of little moment towards the improvement of pathology. But there is one point in which physiology is of inestimable service which he leaves altogether out of view, and this we would try to explain. Neither physiology nor pathology can be cultivated to any extent by the mere observation of sensible qualities, as is the case with some parts of natural history. A very great part of pathological inquiry relates to the determination of sequences of action involving a judgment as to events standing to each other in the relation of cause and effect. To have imbibed the spirit of the laws of nature in the department under investigation is the only effectual preparative for the right exercise of this kind of judgment. Hence no man's authority has had any permanent weight in pathology unless his mind had become imbued with the spirit of the plan on which the animal economy proceeds in its normal state; that is, with the spirit of physiology.

Moreover, we cannot help thinking that the faults charged by Dr. Walshe against medicine, on the score of its use of physiology, belong less to our time than to past history. True, Dr. Forbes is of our time, and so is Liebig—but the latter can hardly be ranked in the Profession, and his views, as it appears to us, have seldom been rated beyond their real value, that is, as the ingenious speculations of a gifted chemist, which have served to direct the attention of physiologists and pathologists into new fields of inquiry. As to the use Dr. Forbes makes of the term physiological physician, of which Dr. Walshe complains, we think it is very pardonable, being satisfied that few things are more in accordance with the general laws of the animal economy than the principle involved in his observation, namely, "that a morbid condition, which may have been months or years in forming, can only be effectually or permanently removed by means which act slowly and for a length of time, not on one part only, but more or less on the whole system."

Again, we really do not think there is any particular disposition at present to foretell the phenomena and pathogeny of diseases, prior to experience, from the mere knowledge of the physiology of texture and function. And we are quite sure Cullen did not so produce his *Synocha*, the instance Dr. Walshe cites. The process by which Cullen obtained his synocha was quite the reverse; he found that the symptoms of an inflammation may be analysed into symptoms denoting disturbance of function in the affected organ, and certain pretty constant constitutional symptoms of a febrile character. He subtracted the local symptoms, and thus obtained a febrile state common to inflammations in general, and to this state he applied the name synocha. He defined this term under the head "Febres," side by side with hectic fever; and throughout his nosology, when he had occasion to refer to that train of constitutional symptoms, he found the convenience of expressing it by the single word "synocha," just as by "febris hectica," in other circumstances, he briefly denoted the train of constitutional symptoms put down in an adjoining paragraph. It is true that Cullen, while it is plain that this convenience was his main object in constructing the genus "synocha," does not expressly say, that synocha never is an idiopathic fever; nay, he gives instances from authors of what he considered to be true continued fevers of this type; and though his successor, Dr. James Gregory, was accustomed to remark, as Dr. Walshe says, that he had never seen this form of fever as an epidemic continued fever, yet many of us here are of opinion that a large proportion of the cases in our two last Edinburgh epidemics were properly referred to Cullen's synocha. But this is a digression.

We sincerely thank Dr. Walshe for the opportunity he has given us of talking on such subjects; and we would just advert, for a moment, to an error among the speculative in medicine at present to which, we think, the doctor has not adverted. It must be confessed that scientific medicine is cultivated with much assiduity, and, in a certain measure, with very great success, by the aid of minute physiological and pathological observations; and it is nothing more than reasonable to look forward to much progressive benefit, in the course of time, from this source. But the over-zealous partizans of this kind of inquiry look upon their method as too exclusively that by which the improvement of practical medicine is to be effected. They neglect, too much, what has been already done, and refuse to take the pains to incorporate their new views with what is valuable in the old, while they prematurely flatter themselves that the practice of medicine is soon to attain a rational or purely scientific basis, when, as they deceive themselves, the treatment will be at once suggested by the pathology of a disease.

We entirely agree with Dr. Farre as to the benefits which the microscope, under right management, is likely to afford to medicine. He has most properly qualified what he says of the expected light to be thrown on cholera by the microscopic discovery of its connexion with the presence of peculiar vegetable organisms; but we strongly fear he will have to put the Bristol microscopists, next year, in the same category in which he puts Dr. Ley's so ingenious theory of spasmodic croup.

APPOINTMENT.—On the 17th inst., Dr. D. Lewis, of Finsbury-place, was unanimously elected one of the Physicians to the Royal General Dispensary, Aldersgate street.

Complaints having reached us of the irregular delivery of the MEDICAL TIMES *in the country by the Booksellers and Newsmen, we state, for the information of our readers, that this Journal is always published early on Friday afternoon, so that it may reach the Provinces by post on Saturday morning.*

Correspondents are requested to address their Communications to "The Editor of the MEDICAL TIMES, *147, Strand."*

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THE MEDICAL TIMES.

SATURDAY, OCTOBER 27, 1849.

IN the month of September, 1847, Mr. Synnot, of Cadogan-place, was summoned by Mr. Mills, the Deputy-Coroner for West Middlesex (Mr. Wakley's deputy), personally to appear at his Inquest, and to give evidence touching the death of a child which he, Mr. Synnot, had attended during its brief illness. Mr. Synnot had made a *post-mortem* examination of the body, and had discovered that the death of the child had been caused by three pieces of nut sticking in the bronchial tubes. The evidence which Mr. Synnot gave was most strictly medical; and it enabled the jury to return a very satisfactory verdict, and withal a very unusual one, namely, the true cause of death: At the termination of the Inquest Mr. Synnot demanded his medical fee; but Mr. Mills, actuated by some unaccountable feeling, refused to pay it to him, arguing that Mr. Synnot had merely been summoned as an ordinary witness. Upon this, Mr. Synnot very properly brought the matter before the Judge. It was tried in the Bloomsbury County Court, on Wednesday, the 1st of December, 1847; and his Honor, on advising Mr. Mills to pay the fee claimed by Mr. Synnot, said, that the Act on which Mr. Mills grounded his objections to pay had been entirely repealed by that of Vic. 1, cap. lxviii. sec. 2, "wherein it was expressly stated, that immediately an inquest terminated, all witnesses' and other incidental expenses shall be paid by the Coroner, who will be reimbursed by the Justices at Quarter Sessions, the different sums allowed being stated therein," among which was—medical fee, 1*l.* 1s. Only the last Trinity Term, Lord Denman had tried a case heard on a mandamus against the Justices of Caernarvon, who refused to allow a Coroner for a medical witness; but whom, by the decision of his Lordship, they would be compelled to pay. In fact, according to the Act quoted, they had no discretion in the matter, and he was of opinion, that it was of no consequence what summons a medical man received, for if even he was in a room, and should unexpectedly be called upon to give evidence, he could substantiate his demand. And (continued the Judge) it would be a very bad precedent to confirm the non-payment of a Medical man summoned as a witness, and great difficulty would, by so doing, arise in obtaining his attendance. This action, instead of being brought in "tort," has been instituted as though a contract existed, through which technical mistake the plaintiff is liable to be non-suited; *but he can, of course, recover by obtaining a mandamus*, and I, therefore, should advise you, Mr. Mills, to take the case into your own hands, that is, to pay the money demanded by Mr. Synnot."

A second case, of a somewhat similar character, has just occurred within the jurisdiction of the same Coroner. An inquest was held at Hampstead, on the 24th of August last, by Mr. H. Membury Wakley, the Deputy-Coroner, and, at that inquest, he required the evidence of Mr. Lord, the medical attendant of deceased, but instead of issuing a written summons to the Medical witness, merely sent off an officer to him, with a request that he would attend immediately. Mr. Lord accordingly made his appearance; and, notwithstanding that the deceased died from cholera, for such was the verdict, and that there was not a shadow of suspicion of any kind connected with the case, yet the Coroner deemed it necessary to institute an inquiry into the line of medical practice adopted by Mr. Lord. He, however, refused to answer the questions, believing them to be irrelevant, and the Coroner, therefore, adjourned the Inquest, in order that another surgeon might make a *post-mortem* examination of the body. When the inquiry was at an end, Mr. Lord advanced and demanded the fee which is allowed by law to a medical witness. The Coroner, however, refused to pay it, acting, as he said, on *principle*; upon which Mr. Lord retired, and, on the 16th instant, sought to recover the fee by summoning Mr. Wakley before Mr. D. C. Moylan, at the Westminster County Court; and his Honor having asked Mr. Wakley what line of defence he meant to take, the latter replied, that he should oppose the claim upon two grounds—

1st. That the summons from the County Court was informal, inasmuch as it did not contain his Christian name; it was, moreover, addressed to the Coroner, whereas he was but the Deputy-Coroner; and it was sent to the Coroner's office, and not to his residence.

To which the Judge replied, that, by an Act of Parliament, the plaintiff was bound to state in the summons the Christian and surname, the occupation and residence of the defendant; and, if he failed in these respects, the case must fall to the ground.

2ndly. Mr. Wakley said, that he was not bound to pay Mr. Lord his fee, inasmuch as he had not issued a written summons to the plaintiff.

Upon which his Honor remarked, that, according to the Act of Parliament, it was essential that a summons should be issued by the Coroner before a party could claim a right to the fee for his attendance. In the present case, no summons had been issued; and, therefore, the plaintiff must be non-suited; but he would not allow the defendant (Mr. Wakley) his costs.

We refrain from making any comments on these cases, notwithstanding that the animus which has been exhibited in them is most unjust and most unprofessional. We may say, too, and it is a remarkable circumstance, that Mr. Wakley is, as far as we have been enabled to learn, the only Coroner who has, through his officials, had to play so disagreeable a part in a court of justice. Other Coroners, however, may, and probably will, take advantage of this example, so unfortunately placed before them by a medical colleague, and our Professional brethren may have much difficulty in securing the fees, small as they are, which are allowed to them by Acts of Parliament; consequently, we think it right to place before them, which we do in another part of our Journal, the entire Act relating to medical witnesses, whereby they will be enabled to perceive the precise position in which they are placed with regard to Coroners.—[See p. 347.]

Again, an Act was passed in the first year of Victoria, cap. lxviii., in the second section of which it is ordered thus :—

And be it enacted, that so much of the said Act passed in the last session of Parliament as directs the Coroner to make out an order on the churchwardens and overseers of the parish in which any death shall have happened, for payment of the remuneration or fee payable under the provisions of that Act to any medical practitioner, and as directs such churchwardens and overseers to pay the same out of the funds collected for the relief of the poor of such parish, shall be, and the same is hereby repealed, and in lieu thereof the Coroner shall, immediately after the termination of the proceedings at any inquest, advance and pay such remuneration or fee to every medical witness summoned under the provisions of the said Act, and the amount thereof shall be repaid to the said Coroner in manner hereinafter mentioned."

As to the form of summons which is usually issued, we may remark, that they are rarely, if ever, legal, inasmuch as they are not worded after the manner of schedule A.

A non-medical summons, as given by Jervis in his Work on the Office and Duties of Coroners, runs thus :—

—— *to Wit.*—Whereas, I am credibly informed, that you can give evidence on behalf of our Sovereign Lady the Queen, touching the death of R. F., now lying dead in the parish of ——, in the county of ——: these are, therefore, by virtue of my office, in Her Majesty's name, to charge and command you personally to be and appear before me at the dwelling-house of ——, known by the sign of the ——, in the said parish of ——, at six of the clock in the evening, on the day of —— instant, then and there to give evidence and be examined in Her Majesty's behalf before me and my inquest, touching the premises. Hereof fail not, or you will answer the contrary at your peril. Given under my hand and seal, this —— day of ——, one thousand eight hundred and ——.

"C. D., Coroner, L. S.

"To A. B., C. D., &c."

Finally, we may mention that, in case the summons received is not altogether legal, the County Court is not the place for the recovery of the fee, inasmuch as this Court merely presides over matters of contract, and the Case will fail if the contract is not, in every sense, a legal one. The claimant, however, can recover by obtaining a *mandamus* against the Coroner.

THE PIMLICO CATASTROPHE.

THE melancholy accident, by which five lives have been sacrificed in a sewer, is suggestive of so many points of comment, both hygienic and general, that we should ill acquit ourselves of the responsibilities we are under, as Medical Journalists, by failing to notice it at the present time.

The idea of five human beings dying, like

dogs, in a ditch, is, abstractedly considered horrible in the extreme; nevertheless, if proper use be made of the facts eliminated by this catastrophe, we may glean such an amount of truthful indications for future guidance as shall sanctify the accident as a holocaust to the health of millions, and temper our regrets with hope.

Truth is frequently invisible, except in extremes. The gradual poisonous agency of sulphuretted hydrogen gas, when sparingly evolved from the sewers and gulley-holes of this vast metropolis, might have been denied as strenuously hereafter as it had been heretofore; the experiments of the toxicological chemist on this subject might have again been set at nought casualties traceable to this agency might have again been utterly ignored; suspicious deaths again referred, without due investigation, to the operation of natural causes; and, eventually, the whole question at issue lost in the studied mystycism, and angry recriminations of ignorant and interested "Boards." A palpable fact, however, so horrible in all its circumstances, as the one to which we advert, cannot fail, we imagine, to leave some impress upon the susceptibilities of a Commission of Sewers —cannot fail, we should hope, to induce those functionaries to whom the charge is delegated of caring for the public health, to be less sceptical than they have been to the adverse influences, identical in kind, though differing in degree, to the one brought home, by the Warwick-street tragedy, to the level of their comprehension. Medical chemists have long been aware that sulphuretted hydrogen gas is one possessing, even when in a diluted state, a wide sphere of fatal influences. Even an atmosphere, which contains an amount of this gas so insignificant that the olfactory organs are unable to indicate its presence, is known to be capable of inducing violent headaches, palpitations, and other symptoms, which, if extended over a sufficient period, would infallibly be fatal. In a more dilute condition, if this gas be taken into the lungs, or applied for a sufficient length of time to the skin, medico-legal inquirers have too long been cognisant of the fatal result to require the evidence of an accident. Nay, other individuals there have been, and amongst them some of the greatest luminaries of our Profession, who have attributed a still larger sphere of noxious influences to the gas in question, and have believed it to be the direct cause of fevers of a most malignant kind. Thus, the malignant fever of the western coast of Africa has been attributed to the development of this gas from the decomposition of sulphates, by the agency of organic matter with which they are brought in contact; and one link in the chain of evidence between the effect and its presumed cause is supplied by the invariable existence of free sulphuretted hydrogen in the waters, both fresh and oceanic, of these regions.

We may or may not be converts to the abovementioned theory. The question is totally beside the bearing of the proposition which we are about to submit; namely, that sulphuretted hydrogen gas being generated very largely in sewers, and being known as a most poisonous gas, it is incumbent on those who are guardians of the public health to provide adequate means for carrying it harmlessly away. For, whether it be a definite and immediate cause of specific maladies or not,—every one competent to offer testimony in the matter will admit, that its diffusion in the atmosphere of which we breathe cannot fail to lower the stimulus of life, and thus to break down the barriers of health against disease.

Whilst the inquest on the five unfortunate victims of the sewer accident was yet incomplete, we could not help feeling, that the surveyor, under whose directions the exploration was made, should have reflected more deeply than he did on the peculiar conditions of the operation in question. The fatal tunnel did not terminate, as usual, in an open mouth, but against a brick wall, with which this mouth had been occluded. Hence, it must necessarily happen, that any gas which might have been there present, could not do otherwise than linger in the drain. To have sent men down into a sewer thus occluded, we could not but designate as a very grave oversight, for which the surveyors of the Commission of Sewers must be held responsible. The verdict of the Coroner's Jury has since confirmed our view.

We feel it our duty also to reprehend the carelessness, apathy, or whatever feeling it might have been, by the operation of which it was permitted the ill-fated Mr. Wells to remain half an hour without medical attention. Apparently dead though he might have been, we know, that, in cases of asphyxia, the patient should not precipitately be considered as lost, but that attempts at re-animation should be instituted; invariably and on the instant. Neither is it creditable, in these days, for a liberally educated member of the Medical Profession to testify, that in his belief the blueness of surface of such as die from the breathing of sulphuretted hydrogen is due to the reaction of that gas on iron in the blood. In the first place, sulphuretted hydrogen does not turn iron solutions black or blue, the metal in question being a well-known exception to the general rule; and, in the second place, iron as it exists in the blood is well known (owing to some peculiarity of combination) to be unaffected by any gaseous or liquid test. We forbear to expatiate further on the lamentable occurrence at the present time. It is one which presents, under an aspect of harrowing misery, truth in an extreme manifestation. Well will it be for the sanitary interests of the thousands congregated in this vast metropolis, if such an extreme manifestation shall not have occurred in vain. Well will it be, if the manifestation of this poisonous agency, killing with sudden deathstroke, surely and at once, shall cause our legislators to reflect on the amount of physical prostration, illness, and lingering death which the same agencies day by day produce, when in a more diluted form; results long made known to the educated inquirer by the evidence of philosophy, but only visible to the more stolid comprehensions of Commissions and Boards by a sudden catastrophe, such as the one we have described.

THE FORTHCOMING REPORT OF THE CHOLERA COMMITTEE OF THE COLLEGE OF PHYSICIANS.

We last week informed our readers, that we hoped, in our present Number, to be able to lay before them an abstract of the Report of the Cholera Committee of the College of Physicians. We are sorry that an unavoidable delay in preparing the wood-cuts has prevented the appearance of that Report so soon as we expected. But, in the meantime, we may state the following as the chief results obtained by the labours of that Committee.

The "Cholera fungi" do not exist in the waters of a large number of the districts in which Cholera prevails.

The "Cholera fungi" cannot, by the most careful examination, be detected in the air of many rooms inhabited by Cholera patients.

"Cholera fungi" are constantly to be found in the stools passed by patients labouring under other diseases than Cholera.

"Cholera fungi" are occasionally to be found in healthy stools.

The bodies which have been called "different forms of the development of the cholera fungus," are in quality the most dissimilar in their origin and chemical constitution.

Should the report contain the details of facts which bear out the above statements, the thanks, not only of the Profession, but of the community at large, will be due to the gentlemen composing the Cholera Committee, for their zeal and energy. The names of the Secretaries, Drs. Baly and Gull, are sufficient guarantee that the material placed at the disposal of the Committee will be used to the greatest advantage.

THE APPOINTMENT OF SURGEON TO PRINCE ALBERT.

The appointment in the Household of H.R.H. the Prince Albert, lately vacant by the death of Mr. Aston Key, has been bestowed upon Mr. Fergusson, Professor of Surgery in King's College.

The great body of the Profession, we feel assured, will agree with us, that a better choice could not have been made. Mr. Fergusson has attained — and that entirely by his own merits — the foremost rank in his department of the Profession; he is as much respected in his private character, as distinguished by his professional acquirement; and, while one and all will unite in congratulating him upon the eminent success that has marked his career in life, none will say it is undeserved, or that others would have occupied more worthily his high position.

THE OPERATIVE SURGERY OF JOHANN FRIEDRICH DIEFFENBACH.

Edited by
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And
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(Continued from page 310.)

OF TYING THE COMMON CAROTID ARTERY.

This operation was performed by Sir Astley Cooper in the year 1805; since then repeatedly by different surgeons, myself among the number. Both carotid arteries were successfully tied by Macgile within the space of a month.

The patient is to lie in a horizontal position, with the chest and head moderately raised. A cushion placed behind the neck, so as to extend it as far

as circumstances will permit: This is one of the most important preliminaries.

Cooper makes an incision through the skin and platysma-myoides, from two to three inches in length, along the inner margin of the mastoid muscle, to within an inch of the sternum. Rust and Von Graefe carry it rather further down. Bujalsky commences the incision superiorly rather more inwards. Langenbeck terminates the incision by the middle crico-thyroid ligament. On penetrating the space between the mastoid and sterno-hyoid muscles, and clearing away the cellular texture with the finger and handle of the scalpel, the omo-hyoid muscle is found crossing the great vessels of the neck. This, together with the thyroid gland, is to be drawn inwards, and then an opening carefully made into the common cellular sheath which surrounds the jugular vein, par vagum, and carotid. The jugular vein being drawn outwards, the proper sheath of the carotid is to be opened, the artery insulated, and engirt with the thread. The par vagum, situate between the jugular vein and the carotid artery, is to be shunned in applying the ligature. (a.)

Zang cuts between the two divisions of the mastoid muscle. The incision, from two to two inches and a half long, passes along the outer margin of the sternal portion, and terminates a quarter of an inch above the clavicle. The omo-hyoid muscle is to be drawn upwards and backwards, the thyroid gland inwards. The remainder is as in the other modes of operating. (A line drawn from the sternal end of the clavicle to the mastoid process indicates the direction of the carotid.—A. U.)

OF TYING THE SUPERIOR THYROID ARTERY.

The patient is placed upon an operating table, with the chest and head elevated, having a small round cushion under the nape, to throw the throat forward. The incision begins under the angle of the lower jaw, rather towards the outer side, and courses downwards along the inner border of the mastoid muscle. As soon as the platysma myoides and fascia are cut through, a portion of the cellular texture is taken up with forceps, and removed with a few horizontal touches of the knife. The artery, after being properly insulated, is tied. Care must be taken to avoid injuring a branch of the glosso-pharyngeal nerve. The operation may have to be modified from the altered position of the vessel in the instance of bronchocele. Here it is expedient to incise only where pulsation can be felt. Walther and other surgeons commence the incision in the interspace between the os hyoides and thyroid cartilage, and continue it for three inches down towards the sternum, by the inner side of the mastoid muscle. The success which has attended that eminent surgeon's operations for bronchocele is the best proof of the value of this method.

OF TYING THE LINGUAL ARTERY.

The patient is placed as in the operation of tying the carotid artery, with the neck extended, and the face turned to the opposite side. The cutaneous incision traverses the space between the os hyoides and edge of the lower jaw, but rather nearer the former, and is prolonged in the track of the artery from two to two inches and a half outwards, and somewhat upwards, beginning at the mesial line of the neck. After the skin and platysma myoides are divided, the facial vein is to be drawn aside, the cellular sheath of the submaxillary gland opened, and the gland, digastric, and stylo-hyoid muscles a little upraised; the hyoglossus muscle thus brought into view, is cut across upon a director insinuated beneath, whereupon the artery is laid bare and tied.

According to the method of Bell and Wise, the patient is seated with his head leaning back upon the breast of an assistant, who also fixes the lower jaw. The first incision, which goes through the skin and platysma myoides, begins over the body of the os hyoides, and extends for the length of two inches towards the mastoid process; the vein lying upon or beneath the fascia is to be drawn aside or cut across, and then the fascia divided in the line of the cutaneous incision. On drawing the posterior belly of the digastric muscle downwards and outwards with a blunt hook, the lingual artery can be felt upon the genio-glossus muscle, and fairly exposed by cutting through a few fibres of the hyoglossus muscle. Some twigs of the lingual nerve, and the contiguous thyroid artery are to be shunned.

Dieterich's plan deserves the preference, as being the most easily accomplished. The first incision begins three lines from the margin of the lower jaw, and is continued as in the operation upon the internal carotid. The digastric and stylo-hyoid muscles having been exposed, are to be drawn either downwards or upwards together with the lingual nerve, whereupon the lingual artery is seen coming off from the external carotid, with the lingual vein alongside. The vein is to be drawn upwards, the nerve downwards, and the artery tied.

The ligation of the lingual artery has been advised in hæmorrhage from the tongue, cancer of that organ, and the like. But as the tongue can be got at more readily through the mouth, the operation is not generally approved.

OF TYING THE TEMPORAL ARTERY.

This is a very simple matter, inasmuch as the pulsations of the vessel can be distinctly felt on account of the subjacent bone. The artery is most readily exposed by means of an incision made directly over the zygomatic arch. I have frequently tied the artery for parenchymatous bleeding, for punctured and lacerated wounds, as also for false aneurism. Dieterich and Manec recommend the incision to be made a quarter of an inch distant from the tragus, and to extend one inch directly upwards. The artery is to be separated from the vein, and tied above the origin of the auricular artery.

OF TYING THE OCCIPITAL ARTERY.

The cutaneous incision begins half an inch above the mastoid process, is prolonged in the direction of the fibres of the mastoid muscle, so that it passes close under the mastoid process. Skin, fat, and fascia, being divided as far as the cellular connexion of the above muscle with the splenius, the occipital artery is brought into view; the veins, both above and below, are to be respectively drawn aside; the artery is to be then insulated and a ligature applied (Dieterich). According to Manec, the first incision commences half an inch behind and below the prominence of the mastoid process, and an inch slantwise upwards and backwards through the skin, and tendinous aponeurosis of the sterno-mastoid muscle. Then the surgeon feels for the base of the mastoid process under the upper edge of the wound. He next divides the splenius capitis in the direction of the cutaneous incision, and arrives at the artery two lines below the digastric fossa. The former is the more eligible operation of the two.

OF TYING THE POSTERIOR AURIS ARTERY.

The tying of this artery is unattended with any difficulty from its superficial situation and sensible pulsation. I have done it repeatedly for wounds and for pulsating tumours of the ear. The cutaneous incision runs behind the flap of the ear downwards, along the margin of the mastoid process, the extent of an inch. The deeper incision severs the fat and fascia. The artery is perceived in the middle, between the border of the parotid gland in the lower angle of the wound, and the retrahens aurem muscle.

OF TYING THE ARTERIA INNOMINATA.

This artery was tied, for the first time, by Dr. Valentine Mott, in the year 1818; by Von Graefe in 1821; and by Arendt in 1828. Von Graefe directs the patient to be placed on his back upon the table in such wise that the head hang somewhat backwards. An incision is to be made on the right side through the integuments, two inches and a half long, by the inner margin of the sterno-mastoid muscle, as far as the sternal end of the clavicle. In the deep space between that muscle and the sterno-hyoid muscle lies the carotid. This serves as a guide to the trunk of the innominata, which has the trachea close by to the left, and somewhat behind. The point of the left index finger reposing on the vessel, acts as a conductor to the aneurism needle, by which the thread is conveyed round the vascular trunk from within outwards, as near its middle as possible, in order to shun the recurrent nerve. Bujalsky recommends as a means of more readily getting at the vessel, to make the cutaneous incision rather more to the inner side over the sterno-hyoid muscle, and to divide the latter obliquely together with the subjacent sterno-thyroid muscle.

OF TYING THE SUBCLAVIAN AND THE AXILLARY ARTERY.

The operation may be performed in four different places, according as the ligature will admit of being applied, low down, or high up. The lowest point is the axilla, the next is under the clavicle, above this bone; and lastly, at the tracheal end of the scalenus muscle.

1. *Ligation in the Axilla according to the method of Lisfranc.*

This is the most eligible, but to be undertaken only, when the wound or aneurism is in the upper fourth of the brachial artery. The patient is laid upon the opposite side, the hand elevated till it rest on the head, and supported in that situation. An incision three inches long is made through the tense skin of the axilla in the course of the pulsating artery. The edges of the wound are to be drawn apart with retractors, and the cellular texture separated and removed with the knife, whereupon the axillary vein and brachial plexus, of which the principal nerve is the median, are disclosed to view. The axillary artery lies behind. After having been insulated, and brought forwards with a blunt hook, it is to be tied below the spot at which the subscapular, the anterior, and posterior circumflex arteries are given off.

In the instance of punctured or incised wounds contiguous to the axilla, with lesion of the artery, where much blood is effused, coagulated, and stagnant, from provisional compression, I have been enabled to tie the artery more conveniently by following the tract of the inner margin of the biceps, than by the higher incision. Langenbeck has operated in the same way.

[By dividing the axilla into three equal portions longwise, and making an incision of three inches at the junction of the superior and middle thirds, the surgeon will expose the external cutaneous, then the median nerve, behind which lies the artery.—A. U.]

2. *Of Tying the Subclavian below the Clavicle.*

The patient is placed as above. An assistant standing on the opposite side compresses the artery in the interspace between the clavicle and acromion with his two fingers bent like hooks. An incision, four inches long, by the lower margin of the clavicle, divides the skin and platysma myoides, the cephalic vein at the border of the greater pectoral muscle being left untouched. A cut into the edge of this muscle brings the lesser pectoral into sight, and which crosses the outer margin of the wound. The artery may then be felt at the upper border of the clavicle, having the brachial plexus to its outer, the subclavian vein to its inner side. The intervening cellular texture having been removed, the artery is secured with a flat blunt hook, the thread passed round with an aneurism needle, and tied.

According to Keate, the cutaneous incision is to be made a quarter of an inch below the clavicle, carried slantwise upwards and downwards towards the point of the coracoid process, then the half of the clavicular portion of the greater pectoral and the tendinous portion of the lesser pectoral muscle cut across, the arm next elevated, the brachial plexus and axillary vein drawn aside with blunt hooks, and a ligature put round the artery. This method is tedious, from the amount of dissection involved, and from the operator having to pause to take up the external thoracic artery, which is inevitably wounded. It is followed by Rust, Zang, and Bujalsky, who, however, place the arm by the side, and tie the artery in the outer part of the wound. By making the incision a finger breadth lower, as Dupuytren was wont, the thoracic arteries and veins, and the acromial artery, run the risk of injury.

Lisfranc directed the arm to be lifted upwards and backwards; the cutaneous incision to extend

(a.) As a general rule in tying arteries, the director or aneurism needle ought to be introduced so that its point shall be always on the opposite side from the vein.—A. U.

three inches, beginning half an inch below the sternal end of the clavicle, and to pass between the sternal and clavicular slips of the greater pectoral muscle. The arm is then to be brought near the body. The artery lies covered by the vein at the sternal third of the clavicle.

According to Delpech, the cutaneous incision is to run between the greater pectoral and deltoid muscles, commencing at the upper margin of the acromial end of the clavicle, and proceeding along the inner side of the arm. In cutting deeply, the cephalic vein must be shunned. The artery with the brachial plexus is then to be drawn a little forward, insulated, and tied. This method is commendable, save the incision of the pectoral muscle, to which Dermott objects.

3. *Of Tying the Subclavian Artery above the Clavicle.*

The method of Zang is, perhaps, the most eligible. The incision is made in the middle of the triangle formed by the posterior belly of the omo-hyoideus and the posterior margin of the mastoid muscle. It commences at the outer border of the mastoid muscle, two inches above the clavicle, and extends outwards and downwards to the middle of the said bone. The artery is to be detached from the surrounding nerves, and tied, avoiding the transverse artery of the scapula.

Von Graefe made an incision from the posterior margin of the clavicular slip of the mastoid muscle along the collar-bone. Then he sought with his finger the scalenus anticus, and cut it across. The subclavian artery will be found running slantwise, covered with loose cellular texture, having anteriorly the subclavian vein and transverse artery of the scapula. Dupuytren adopted the same procedure.

According to Langenbeck, the shoulder is to be depressed, and an incision running parallel with the clavicle made over its middle. The external jugular vein is to be carefully shunned. On penetrating to the scalenus anticus muscle, the transverse artery of the scapula and the transverse of the neck are to be avoided. The artery will now be felt pulsating in the triangular space between the first rib, the scalenus anticus, and omo-hyoideus muscles. Above and upon it lies the brachial plexus, and at its inner side the subclavian vein.

According to Lisfranc the incision is to begin at the posterior border of the mastoid muscle, and to run for three inches above the clavicle towards its acromial end. The tubercle of the first rib being ascertained, the artery can be at once felt. The brachial plexus is situate further backwards, and outwards. (The tubercle referred to is upon the inner border of the first rib, and forms the point of insertion for the external margin of the scalenus anticus muscle. The subclavian vessels slide over the smooth depression upon the external surface of the rib immediately outside of the tubercle. Malgaigne states, that in a well-made adult person, reckoning the length of the clavicle at six inches, the artery, in its passage over the first rib, would be found at twenty-eight lines from the sterno-clavicular articulation, four lines more outward than the external third of the clavicle; it would, therefore be situate about the middle of Lisfranc's incision.—A. U.)

According to Bujalsky an incision two inches and a half long is to be carried from the fore end of the collar-bone along the hinder margin of the mastoid muscle. Then, the latissimus colli and subjacent fat, the superficial cervical veins, and a nervous twig from the fourth cervical, and the omo-hyoideus muscle, are to be divided, whereupon the scalenus anticus is seen under the lymphatic glands, with the artery to its outer side. This method is not so eligible as the preceding.

4. *Ligation of the subclavian artery at the tracheal end of the scalenus anticus muscle.*

According to Colles and Sir Astley Cooper, a horizontal incision three inches in length is to be made immediately over the sternal end of the clavicle, and then the clavicular end cut across. The cellular texture is to be separated with the handle of the scalpel as far as the scalenus anticus muscle, and search made for the artery at its outer border. In order to effect ligation below the exit of the vertebral and inferior thyroid arteries, the surgeon must keep to the outer side of the subclavian. The pleura is to be shunned in tying the noose. Dieterich advises the cut to be made more inwards, and both insertions of the mastoid muscle to be severed. The last is also Hodgson's suggestion, who traces the carotid up to the trunk of the innominata, and then ties the subclavian close by.

King, in order to save the mastoid muscle, directs the incision to be made as in the operation upon the arteria innominata. The artery is to be discovered between the windpipe and the scalenus posticus muscle. The par vagum is to be pushed aside inwards, the phrenic nerve outwards. In tying the left subclavian, he makes the incision by the right mastoid muscle, between the sterno-thyroid muscles; he then passes to the left from the trachea to the left carotid, and from hence to the subclavian, which is to be tied at its origin, taking care not to injure the thoracic duct. This is not a very available method.

Dieterich's procedure for tying the left subclavian artery is manifestly superior. At the inner border of the mastoid muscle an incision is to be made two and a half inches long, which is to commence at the sternum; then a transverse incision is to be carried outwards from the lower angle of the wound, whereby the sternal portion is at the same time separated. The mastoid muscle is to be drawn outwards, the sterno-thyroid inwards. The internal jugular vein, the carotid artery, par vagum, are to be detached and drawn outwards with retractors, after which the subclavian is perceptible in its cellular sheath. This is to be opened at the inner side, as the thoracic duct lies to the outer. The thread is next to be placed round the artery.

REVIEWS.

On the Nature of Limbs. A Discourse delivered on Friday, February 9, at an Evening Meeting of the Royal Institution of Great Britain. By Richard Owen, F.R.S. London: John Van Voorst, Paternoster-row. 1849.

But a few years ago, and it was the fashion to treat transcendental anatomy with open ridicule, or secret contempt. Some wild enthusiasts, for the most part Germans, had mingled anatomy with their dreams, and, as the untutored Indian recognized his deity in the clouds and winds, so they saw vertebræ and ribs in everything they examined. Happily, the new delusion was confined to a few mystics. Moreover, it required intense study, and offered no personal advantages to its cultivators; hence it was not very likely to be contagious. Otherwise, it was a hurt and detriment to the true science; and threatened to be, as it were, the alchemy of anatomy.

Much of this disparagement was no doubt owing to the particular word chosen to designate the alleged new study, than which there could scarcely have been a more unfortunate selection. "Transcendental anatomy" did seem a somewhat inflated term, and, so far, an objectionable one. Far from being the logical *differentia*, it had the singular demerit of not even expressing a quality, but rather the effect of some quality on the human mind. And although, in the estimation of its cultivators, it transcended all other varieties of anatomy, yet this was a feature too common to all pursuits to deserve much reliance. The honest currier in the besieged city firmly believed in the transcendental virtues of leather.

And it is but fair to admit, that in the subject itself, as then treated, there was a great deal to excuse, if not to justify this low estimate. Not only were those analogies which formed the staple of the science often fanciful and overstrained, but the language employed added to this obscurity; the same words being often used in such a manner as to imply, not so much likeness of the things compared as identity: an identity so far from existing, that it reflects considerable astonishment as to the sense which some authors attached to these terms.

But, while the time for ridiculing transcendental anatomy, if it ever existed, has long passed, so these, its earlier defects and hindrances, have also disappeared. It no longer demands separation, or affects a diguified exclusion from anatomy generally. If it have any especial claims they are these very intrinsic ones, that it is comparative anatomy in the highest sense, in the extent and number of its comparisons, and in the magnitude and importance of their results.

The Author of this book is everywhere known as an indefatigable anatomist, in whom observation and deduction are found in rare and fruitful union. But, in spite of his deserved fame and position, the very elaborate character of his works has probably hindered their receiving the attention they merit; since they demand a fixity of thought commensurate with the extent and depth of the subject. So little are these matters studied in England,—so completely has the art of anthropotomy usurped the place and title of the science of anatomy, that we doubt whether there are ten men in all London who have ever read Professor Owen's invaluable works, or could even describe, off-hand, the skull of an osseous fish. The parts of hernia and the origin and insertion of the biceps appear to constitute the ordinary limits of our knowledge; while, in rare instances, a sharp knife, a peculiar vision, and a turn for personal invective, enable us to invent new fasciæ and nerves, and shine forth as original discoverers. That large branch of anatomy which is investigated by the aid of the microscope has, it is true, an immense number of cultivators, whose industry is praiseworthy, albeit their zeal is scarce according to knowledge. But in the midst of all this, it behoves us constantly to recollect, that great as is the light shed by that important instrument, still, after all, it is but an auxiliary, and one which, as in its very nature, it requires the scalpel as a preliminary, so, therefore, it can never supersede it. This comparatively languishing state of comparative anatomy, the present work seems at least partially intended to meet. It forms a simple, philosophical, and attractive introduction to the anatomy of the skeleton; while it affords a very sufficient basis for many of the most important deductions which the whole range of the science affords.

The selection of the limbs for the subject of the discourse is peculiarly happy: since it not only offers the most striking comparisons, and the widest series of adaptive modifications, but it has the further advantage of insuring that every one comes to it with some preparation; since every one possesses a knowledge of their exterior form, and the more important of their articulations and movements.

But not only is this little book to be regarded as an introduction to the study of philosophic anatomy; it may also be viewed as to a great extent epitomizing the main principles of the science. The Author has especially laboured, and, we think, with no small success, to establish and formally enunciate one of the chief elements of that mysterious, and, to a thinking mind, awful law,—the oneness of organization. He believes that, by carefully comparing these parts of the bony framework of vertebrate animals, we may find evidence that they are all constructed upon a common plan, to which they conform, independently of common purpose, and from which they do not deviate, however devious their particular office.

The Author rests the existence of this plan mainly upon the fact, that, while in human contrivances,

which are merely special adaptations, we find the greatest diversity of means, in the limbs of animals we find a singular conformity; and that this conformity, not being required by them, is so far independent of them, and can only be attributed to an identity of plan, which exceeds or persists beyond the similarity of their function.

The first and most obvious objection to this statement is one which we feel bound to notice from the ease with which it may be raised by the most superficial, and the difficulty of its complete refutation. It may be asked by some,—"Does not this argument involve a *petitio principii*? Are we not justified in presuming, that, where the plan is one there is also a certain similarity of purposes, however different in appearance these may be? Is it not probable that the similarity of the limbs of these animals may *resemble* the similarity of their minute structure in being the result, not so much of an adhesion to an arbitrary plan, as of the adaptation of all these instruments to common physiological exigencies of nutrition and growth? And, in this way, may they not constitute a more recondite, but not less real, instance of adaptive modification, which would argue a common, but still a final cause?"

It is difficult to answer these questions with a decided negative. Perhaps, in the present state of our knowledge, it is impossible to do so. But the first objection, which would make similarity of purpose the cause of similarity of plan, is thus ably confuted by the Author.—(Page 39.)

"I think it will be obvious, that the principle of final adaptation fails to satisfy all the conditions of the problem. That every segment, and almost every bone which we possess in the human hand, should exist in the fin of the whale, solely because it is assumed that they were required in such number and collocation, for the support and movement of that undivided and inflexible paddle, squares as little with our idea of the simplest mode of effecting the purpose, as the reason which might be assigned for the great number of bones in the cranium of the chick, viz., to allow of the safe compression of the brain case, during the act of exclusion, squares with the requirements of that act. Such a final purpose is, indeed, readily exercised and admitted in regard to the multiplied points of ossification of the skull of the human fœtus and their relation to safe parturition. But, when we find that the same ossific centres are established, and in similar order, in the skull of the embryo kangaroo, which is born when an inch in length, and in that of the callow bird, which breaks the brittle egg, we feel the truth of Bacon's comparison of final causes to the vestal virgins; and perceive that they would be barren and unproductive of the fruits we are labouring to attain, and would yield us no clue to the comprehension of that law of conformity of which we are in quest. And so again with regard to the structural correspondences manifested in the locomotive members, if the principle of special adaptation fail to explain them, and we reject the idea that these correspondences are manifestations of some archetypal exemplar, in which it has pleased the Creator to frame certain of his living creatures, there remains only the alternative, that the organic atoms have concurred fortuitously, to produce such harmony.—But, from this epicurean slough of despond every healthy mind naturally recoils."

And as to the second question, it may be safely affirmed, that though there may be, and doubtless are final causes of which we know little, and adaptations in answer to these of which we know less; yet, on the whole, it is highly improbable that these could produce the uniformity which we behold Nor is it that the supposed causes are merely unknown; the analogy of the vertebrate and invertebrate animals, in many physiological respects, contrasted with their singular differences as regards form and architecture, would exclude the possibility of the most valid of such causes having any real operation.

The preceding may be regarded as the main position of the book, since on it hinges, not merely the rest of the treatise, but the whole homological anatomy of the skeleton. The magnitude of the truth thus laid down, it is scarcely possible to overrate, both as respects its nature and results.

The instances of design with which the visible world abounds have always been regarded as the best natural evidence of a Creator. As such, the divines of fifty years ago laid the greatest stress upon them; and all must remember how, in early life, even the importance of the subject and the value of the evidence, could scarcely prevent the mind from wearying of this tiresome repetition of one argument. And even when a clearer mental vision gave an additional value to the evidence, by pointing out its real worth—that it was not merely cumulative but reproductive—that each additional instance was not added, but many times multiplied proof—even then our feelings are more bewildered than heightened by this infinity of testimony—this "so great a cloud of witnesses." But now, how much more sublime is the prospect offered to us, and how much more nearly do we approach the arcana of nature! Not only do we recognise adaptation of means to an end, but of such means as bear to each other a specific relation of form, apart from that of purpose. Before, we only saw the use of certain portions of the vast edifice, or haply recognized their individual beauty; it is now that, for the first time, we seem to approach to some conception of their unity and relation to each other as a whole. And, as the architecture of man has been well defined as the union of beauty with habitableness, so, in this grander architecture of nature, we may find two precisely similar constituents—the general plan, and the special adaptation.

It might be expected that the novelty and importance of these conclusions would have created a considerable sensation. But we doubt whether this has been the case. Scarce a few months ago a work was published, containing views which possessed a like share of the novel and the striking, but which was otherwise of a very different character. And, although we do not intend to write vestiges of Vestiges, it is impossible to avoid remembering, that the celebrated vestige which horrified Robinson Crusoe scarcely created more surprise and astonishment in the so-called literary and scientific world than that slim octavo. Clever in hypothesis, impudent in assertion, ignorant of facts, it nevertheless achieved a brilliant bookselling success;—that is, it was universally sold and extensively read. The ordinary objections to that book we scarcely feel called upon to notice, having shrewd suspicion that people who shriek out about their faith do so because it is rather a fragile article. That it was Materialist in its tendencies, is little to us, since a progressively self-developing structure would be a higher instance of design, and would even more require the supposition of a Creator, than a stationary point of development. But we name it to point out that the book was a successful humbug, and that nothing but its anonymous character preserved its author from a kind of fame. The work before us is one of several by the same Author. Its facts are well ascertained, its inductions numerous, its reasoning regular and conclusive, and the result bids fair to be an invaluable addition to the philosophy of the age. But it is not at all a "Penny-Magazine road to knowledge"; on the contrary, it has the misfortune or fault of demanding thought, and requiring the connected attention of the reader; and hence we cannot help suspecting, that, compared with its antithesis, few have heard of it, seen it, read it, or much less understood it.

The treatise is divided into two portions. The first treats of the serial and special homologies of the limbs; and, in conformity herewith, mainly regards them as instruments, which, though peculiarly adapted to their different tasks, yet evince a common plan. Hence the higher vertebrata are chiefly adhered to; the fore leg is compared with the hind one, the solid hoof with the cloven. The modified metatarsus and metacarpus, with their still more complicated tarsal and carpal bones, are traced through various Protean disguises. As if by an enchanter's wand, confluent bones are resolved into their constituent elements, and severed ones re-united; and, in one word, the anatomy of the limbs in these better known animals is thoroughly compared, so as to establish the special bones answering to each other.

The second part attempts a higher flight,—the general homology of the limbs; or the general category of bones to which they are referrible. In the ribs of animals, it is seen that a typical vertebra is susceptible of so great modifications as to render it the likeliest place in which to seek for the origin of the limbs. That the limbs are not modified ribs is shown by the fact, that, however simple they become, as in the rudimentary wing of the apteryx, or the ray of the lepidosiren, still they are never directly attached to a vertebral centre, but rest on arches. These arches are next examined: in other words, the serial and special homologies of the scapular arch are explained. It is compared with the hæmal arch, formed by a true rib, false rib, and sternum, these parts being shown to correspond with the scapula, coracöid, and episternum of the bird respectively, the latter being then referred, through them, to the vertebræ.

But if this arch be the homologue of a rib, the next question is, of what rib? In the crocodile the scapula are not attached to a vertebra; but they cannot belong to the neck or back, since each cervical and dorsal vertebra has its costal appendage; so that the occipital vertebra is the only incomplete segment, and, therefore, the only one to which they can belong. Again, in the lepidosiren, and most fish, they are attached to the occiput, and support an anterior limb; hence, in the reptile, they are merely displaced from their proper attachment.

The limb attached to this occipital scapular arch is next traced, from a small appendage in fish and low reptiles, through its rudimentary condition in the apteryx, or wingless bird, to the ordinary form. It is thus finally shown, that "the human hands and arms are parts of the head,—diverging appendages of the costal or hæmal arch of the occipital segment of the skull."

The pelvic extremities are next considered. Like the axiom in mathematics, "things that are equal to the same are equal to one another," so in homological anatomy, what is generally homologous to a given bone, bears the same relation to its special and serial homologues. If the scapular arch and the arm have this correspondence with the vertebra, the pelvis and the leg which are its homologues, will possess the same relation. This, however, is not relied on by the Author, but an elaborate independent proof is given. For this we refer the reader to the work itself.

Indeed, these brief remarks have barely sketched the principal argument, each part of which involves many others. Brief and imperfect as this notice necessarily is, it would have been far easier to have acquainted the reader with the points established in this work, and to have given the results without the toil of thought. We especially regret, that failing space prevents our attempting to adjudicate the precise shares of different anatomists in the great results

here presented. Suffice it to say, that while philosophical anatomy increases the already large debt that we owe to our kindred, the great German nation, still a large portion of the work is original, in the strict sense, being the result of the Author's personal observations, and equally original deductions. And on the whole, it may be safely asserted, that the little book before us constitutes one of Professor Owen's highest claims to the scientific eminence which he so deservedly possesses.

REPORTS OF SOCIETIES.

MEDICAL SOCIETY OF LONDON.

October, 8, 1849.

Francis Hird, Esq., President.

The subject of larvæ passed from the intestines again became the subject of conversation, Dr. Crisp having exhibited those he mentioned at the last meeting, and which he believed to be too large for larvæ of the ichneumon. Mr. Skegg was attending the patient for a dyspeptic affection. There was no irritation of the bowels.

Dr. Bird said, that in some parts of Ireland, where deep ignorance prevails, there is a sad custom among the people when they are ill, of sending to the grave of some saint, obtaining a portion of the earth, and either eating or drinking it. The result is, that the larvæ of the churchyard beetle is swallowed. It is also possible, from eating raw vegetables or salads that eggs may be swallowed. From the appearance of the larvæ now exhibited they resemble those of the colyophthefous tribe.

Dr. Crisp also mentioned the case of a girl who had eat large quantities of snails, and voided something which Dalrymple recognised as the larvæ of the snail, but which turned out to be the undigested remains of the organs of generation of that creature. In allusion to the cases mentioned by Dr. Bird, he had doubts of their correctness; for he questioned whether those eggs would remain long in the alimentary canal without being formed into beetles.

Dr. Bird then called the attention of the Society to an exceedingly useful help to the medical practitioner in the shape of a vapour-bath, which he exhibited, and which had been used by him in his practice with great success. The great drawback to vapour baths had been their expense or inefficacy. Duval's apparatus had enabled the practitioner to apply any vapour; this was on the same principle, but recommended itself on account of its extreme convenience and great economy. The maker of it was Mr. Moss, of Bartholomew-square, Old-street. After showing the various appliances of which it was possessed, Dr. Bird mentioned three peculiar cases which had occurred to him in the last twelvemonth, the first of which had considerably perplexed him. It was that of a boy, now in hospital for another complaint, two years and a-half old. The patient looked well and generally healthy, as far as development was concerned, but the countenance showing great anxiety. The mother brought him completely doubled up in her lap, without the power of moving the limbs. He learned that the boy had been exposed to cold water, and that shortly after this he had the general appearances of cold, and was found to labour under total incapacity of bending his legs. He was an amiable child, and only petulant from extreme agony. He had never seen such a countenance, and the moment he was touched his shrieks were heart-rending. He had all the appearance of acute rheumatism, but had no swelling of the joints. There was great feverish excitement. He had looked for any spinal affection, but none could be detected, and he was induced to set the case down to acute rheumatism. He was in hospital several days; the perspiration was cold and clammy, and under the impression mentioned, he ordered him to be subjected to the vapour-bath for half an hour, after which he was capable of moving the joints a little; and the child, in ten days, was running about the ward. In the last twelve months, he (Dr. Bird) had had two similar cases, and the heart being examined, there was the smallest possible *frottement*. These were cases quite undefined, and were only remarkable for the severity of the pain and the readiness with which they were cured. He thought that the cases were connected with local fever. The urine in two of the cases contained urate of ammonia, diffused through it, and was of a milky appearance.

Mr. Headland thought that Dr. Bird was not happy in associating his cases with rheumatism. He had had a case, which he would not so associate, but it was curious. A young lady at boarding-school was unable to move the right arm; on looking at it, the head of the humerus was in the armpit, the arm having the appearance of dislocation into the axilla. On taking hold of it he found all the muscles rigid, but this did not apply to the wrist. She had received no injury—it had gradually stiffened. She appeared in fair health; her appetite was good; the catamenia regular; and her appearance robust. He could get no explanation of this condition, but that she had been of late rather anxious about her studies. He succeeded in relaxing the muscles and in bringing the arm back into the glenoid cavity, but the bone again glided into the axilla. It struck him that the condition must be dependent on the state of the nervous system, and on that supposition she was treated. She was ordered to be well nourished, the shower bath to be applied, and gentle friction to the limbs; but without improvement. At last there was a certain amount of improvement; the bone rested on the edge of the glenoid cavity, and in that condition it remained for some time. He thought it was a case of nervous irritability, and in the end, the use of sea water and change of air restored the limb to its normal condition, without the use of medicine.

Dr. Bird thought the case of Mr. Headland a most unique one; but he saw no analogy between it and the three cases which he had mentioned, in which there was intense tenderness, and the agony was continuous. In the one case the patient was placed under the influence of the bath, and whilst so placed there was for the first time power of extending the limb. There was not much chance here of confounding the post hoc with the propter hoc.

Dr. Bennet: There are cases of hysteria which are more nearly allied to Dr. Bird's cases than that of Mr. Headland. I had a lady under my care for months who presented a remarkable example of this. The first indication of it was after her confinement. She had some affection of the bladder, which I took to be the result of an injury after parturition, but it turned out to be an hysterical affection of the bladder. When I first saw her she was in good health and menstruating regularly; but she was afterwards attacked with a painful affection of the ankle-joints, which were not swelled, but tender. I gave a very positive opinion that there was no rheumatism, and no injury of the ankle-joint, and that she would do well. She went to the sea-side, has now returned, and again become pregnant, since which she had been improving. There never was the slightest indication of true inflammatory action, and in proportion as she gained strength to the nervous system she improved. I had submitted her to the action of the electro-magnetic machine, and she seemed a little better under its influence. Her condition lasted for many months.

WESTMINSTER MEDICAL SOCIETY.

October 20, 1849.

F. Hird, Esq., President.

Mr. Clarke exhibited a stem-pessary, fixed to a wire frame, and kept *in situ* by bands passing over the shoulders.

Mr. Nunn exhibited a drawing of a fungus growing inside the bladder, in a patient who had died of cholera, and in whom the only symptom of disease was, the occasional passing of blood per urethram during five years, and the increased flow of blood whenever a catheter was introduced. Connecting this case with one brought before the Society last year, he thought that where hæmaturia is increased by the use of instruments, and where no symptoms exist to indicate the seat of the disease, fungus of the bladder may be anticipated.

Mr. W. F. Barlow read a paper on the muscular contractions, occasionally found after death from cholera. He narrated two cases, in which the muscles of the arms, chest, and legs, and, in one instance, of the face, had been affected; some of the movements resembling those of volition. In one case, the movements began two minutes after death, in the other, a quarter of an hour, the muscles of the legs being the first affected. Two cases on record in India were referred to as being very similar. The movements might be confined to one part only, or even only to a particular muscle, or part of a muscle. He had endeavoured, but unsuccessfully, to excite the contractions by "pricking," and by the application of hot water. The Author alluded to the terror these movements occasion to the relatives, especially if they are uneducated, from the belief they excite that life still exists. He offered no explanation of the cause of these movements, but expressed a wish that they should be carefully noted, and all the different forms of movement placed on record. The time of their duration was of great importance.

Dr. Sibson commenced the adjourned discussion by saying, that having seen a great deal of cholera in Edinburgh in 1832, he felt more despair in his mind from this than from any other disease; the more we hear and see of it, the less we know. It had not been grasped in its whole extent, in its raging at one time, in hot weather, at another equally destructive in cold; here, in the last six months, we find that it increased in dry weather and diminished after the weather changed. It prevails most where there is destitution, want of food, of water, of cleanliness, &c.; and this is true throughout England. The number of victims it seized increased and decreased simultaneously with its progress in London. This appears to be its general law, but this condition of circumstances is not its cause, because typhus fever follows the same track on the map, yet rises and falls at different periods. At Moscow and St. Petersburg, and also in Canada, it raged during intense cold; recently its intensity in England and America has been simultaneous, yet different at Paris and other places, although the climatorial influences are apparently similar. He considered Dr. Snow's theory to be good, but not universally so. If the communicating particles exist in the air, how does cholera arise at one time, and typhus fever at another. He protested strongly against the mucous membrane being the primary seat of cholera. We are not yet in a condition to say that we can cure cholera in its first stage, for some patients pass at once into the depth of the disease; the disease has not been proved to be in the blood at first; that it is at a later period is very certain. In a number of cases in which he had injected salt and water in 1832, revival from collapse was permanently established by three or four injections; they afterwards died, from the urea in the blood not being excreted. The muscular movements, described by Mr. Barlow, are not peculiar to cholera; they depend upon the state of the blood after death. When a patient is rapidly destroyed by a disease, the extremities will often move after death, from the controlling influence of the nerves being removed.

Dr. Lankester considered that the increase in the mortality from cholera this year over that in 1832, is due to the great neglect of sanitary regulations in general; the population being double what it was—the mortality treble. The causes of cholera are, doubtless, complicated, not single; there must be a peculiar poison, predisposing and exciting causes, and a mode of transit of the poison from one person to another. Dr. Snow's theory is that of modified contagion; but he has not proved the existence of a poison in the water. He (Dr. Lankester) is now fully acquainted with Messrs. Brittan and Swayne's corpuscles; as is also Mr. Busk, who divides them into three classes; a few 1-500 to 1-1000 inch in diameter have a regular

shape; the others cannot be defined sufficiently. Those of the first class, are sporules of the smut of wheat; these are found in Dr. Swayne's specimens, not in those of Mr. Brittan; of the second class are the inner coating of the grains of wheat, which is constantly found in the seconds flour, and also occasionally in the best; the others are starch granules, which in some positions under the microscope exactly resemble annular cells. The drawing of Dr. Budd's is not sufficient to prove the existence of organisms; hence he had been compelled to fall back upon some poison still unknown. That a communicability of the disease from one person to another exists, he has no doubt, and referred, in proof of this, to the Rev. Mr. Thorpe's cases, published in the *Lancet*.

Dr. King had recognised two kinds of cholera evacuations; one like thin raspberry jam, the other dysenteric; of the first kind, all the sufferers died; the others all recovered. He had been very particular what his patients ate; and therefore no cholera granules had been found in their evacuations. He doubted much the passing of diarrhœa into cholera, as eleven visiters during twenty-four days only reported five such cases. He considered that the water was a great means of propagating the cholera; but the disease is not solely of the mucous membrane. Where there is collapse, the disease might arise, as Dr. Snow supposes; but where the blue colour prevails, he thought the blood was poisoned. In this way he expected to be able to prove two distinct forms of the disease.

Dr. James Bird did not despair of illustrating the disease if facts are sufficiently made known. He regretted to see medical men looking for a specific. Where the cholera prevails epidemically in India, as in the marching of troops, no such cause of the disease can exist as supposed by Dr. Snow. He believed that it spreads by human intercourse. He feared that Mr. Rogers, Editor of the *Medical Journal*, published at Madras, has drawn conclusions which the facts scarcely authorise. For example, he speaks of the pilgrims and troops conveying the disease, yet he denies its contagiousness. He regards cholera as resembling yellow fever, which, arising from endemic causes, under certain states of the air, becomes epidemic, maintaining, however, its predilection for low wet grounds. He referred to several instances on record of the endemic fever of Sierra Leone becoming contagious, and of the cholera spreading by the intercourse of soldiers in the small huts forming their barracks; hence it was ordered that every regiment should encamp in an open spot, and not go into these huts.

Dr. Webster, in his reply, spoke of the enormous elevation of many churchyards in London by the accumulation of corpses—St. James's, Piccadilly, and St. Bride's, for example, being raised to the height of above the first floor of the adjoining houses. 45,000 bodies have been yearly buried in these churchyards since 1831, exclusive of those taken to the cemeteries, making a total of upwards of 800,000 corpses accumulated in London during these 18 years. He showed that if the same number only continue to be interred during the next 50 years, more than two millions of bodies will be putrifying in these confined spots, contaminating the air and soil all around.

Dr. Snow, in reply, showed how the first cases in London might all have arisen from the use of Thames water, as supposed by his theory of the propagation of cholera.

At the next meeting Professor Murphy will read a paper on the use of Chloroform in Midwifery.

FUNGOUS THEORY OF CHOLERA.

[To the Editor of the Medical Times.]

SIR,—The importance which has recently been attached to the observation of peculiar cells, probably belonging to the lower orders of vegetable organisms, in the dejections of Cholera, induces me to lay before the Profession a few facts as to the occurrence of similar structures under other circumstances, in the fluids and tissues of the human body. In detailing these facts, I am placed under the disadvantage of writing at a distance from my memoranda and drawings; but the accuracy of the following statements may nevertheless be relied on, and the phenomena, which I believe to be by no means rare, will, in all probability, be soon the subject of sufficiently numerous observations, to place the real nature and pathological significance of the bodies described by Mr. Brittan and Mr. Swayne beyond doubt.

The occurrence, even in tolerably fresh urine, of circular bodies, from the size of blood globules upwards, which, from their resistance to chemical re-agents and their defined outline, appear to resemble the sporules of confervæ, is common in various states of disease, and perhaps in healthy urine under some particular circumstances. But it has also not unfrequently occurred to me to observe cells of a larger size, up to the 1-60th or 1-80th of a line in diameter, and presenting the distinct double margin which is characteristic of Mr. Brittan's "annular bodies." They usually present considerable refractive power, are imperfectly transparent, sometimes granular or presenting nuclei, and have somewhat of a straw colour, and a remarkably distinct edge. They have commonly been associated with the smaller bodies above-mentioned, and, in one instance they were accompanied by distinct and abundant ramifications of a mycodermatous vegetation, evidently from mould either generated in the urine or accidentally introduced into it. Some of the specimens of which I have drawings resemble so closely those in Mr. Brittan's figures, (*Medical Gazette*, Sept. 28.) that it would be impossible to point out any essential difference; and the opportunity I have had, through the kindness of Dr. W. Budd, of examining the cholera bodies themselves, enables me to speak confidently as to the exact resemblance of these to the cells seen by me in urine.

These structures were observed and drawn by me at least eighteen months ago long before the first cases of Cholera occurred; and they have since been repeatedly seen. As I have never observed them, however, in perfectly fresh urine passed into a perfectly clean vessel, I always considered them as probably due either to the effects of incipient decomposition or of accidental impurity; the more so as they did not appear to be connected with any special morbid condition of the secretion. The difficulty of removing all accidental sources of fallacy may be illustrated by the fact, that I have on more than one occasion confounded individual examples of these bodies with cells, which I afterwards found were derived from the cork of the bottles in which the urine, or some of my re-agents, were kept; and their general resemblance to various other organic, and especially vegetable cells, is such as might easily lead to mistakes on a cursory examination. On the other hand, their differences, from all the more ordinary forms seen in fresh urinary sediments, was sufficiently characteristic; and, under these circumstances, I confess that I have, on several occasions, passed them over rather hastily, from the conviction that, whatever their nature, they were of slight pathological significance, and had probably been introduced into the urine in some way or other from without, or been generated in it after its exposure to atmospheric influences.

I may observe that Dr. Spencer Thomson, of Haunton, has described and figured with great care bodies bearing considerable resemblance to those I have seen, and which appeared to him to multiply and re-produce themselves in a urine which had stood for some days after being passed. (See *Monthly Journal of Medical Sciences*, April, 1848.) The tendency of Dr. Thomson's observations is to show the fungoid, or confervoid character of these bodies. He observed them to crack and split up in a very peculiar manner, and believed them to contain the smaller sporules so frequently seen and above described. This latter peculiarity has not appeared to me to be perfectly made out in those I had an opportunity of seeing.

In the examination of the tissues of the human body, I have occasionally seen bodies more or less resembling the "cholera" fungi; but I can only recollect one instance in which the cells appeared to me identical with the annular bodies figured by Dr. Brittan. This was in a case of condensation of the upper lobes of both lungs, in which the diseased portions removed for examination were found to contain immense numbers of these bodies, amidst granular corpuscles and the usual pathological elements of pulmonary hepatization.

The occurrence of sporules and confervoid vegetations in effete or imperfectly organised animal matter, when exposed to decomposing influences, is so well known to every microscopic observer as to excite no surprise. Least of all should the presence of such bodies *in the stools* be supposed to demand a special explanation, until it is shown that none of those mixed matters which form the food and pass into the dejections in every stage of decomposition, contain or are capable of generating, similar organisms. The examination into this possible source of fallacy becomes the more necessary from the discovery, by my friend Dr. Jenner, of similar bodies in the stools of typhoid fever; thus placing it beyond all doubt, that cholera is not the only pathological condition in which they occur.

In some observations, published in July last, on the "Pathological Anatomy of Cholera," —(see *Monthly Journal of Medical Science*, July, 1849,)—I must confess having overlooked these peculiar productions in the cholera dejections. But in the comparatively few observations which I made on the cholera stools, passed during life, my object was to discover their essential, and, as it were, *basic* constituent; and, accordingly, everything which looked like foreign, or incidental matter, was at once passed over without remark. I am confident, however, that these bodies did not form a very prominent ingredient in the specimens I examined; and it is, indeed, evident, from Messrs. Brittan and Swayne's papers, that they are, in many cases, only to be found by searching for them, and in some cases not at all. The same remark applies to the constituents of urinary deposits found by Mr. Swaine in cholera evacuations,—viz., lithate of ammoniate, lithic acid, and oxalate of lime, none of which were observed by me in the specimens which I had an opportunity of examining. Triple phosphate was, indeed, occasionally found; but this salt, as is known to most microscopical observers, is frequently generated in decomposing animal fluids, and is by no means peculiar to the urine. In other respects, my observations on this subject correspond with those of Mr. Swayne.

In conclusion, I think it is sufficiently plain, that the inferences drawn from the discovery of the alleged cholera fungi were premature. It is not improbable, however, that the careful observation of the circumstances under which these remarkable bodies occur, may lead to some result of scientific interest, to which Messrs. Brittan and Swayne may justly claim to have led the way. I would willingly hope, that these desultory remarks may not be altogether useless in this investigation.

I am, Sir, your obedient servant,

W. T. GAIRDNER, M.D.,
Pathologist to the Royal Infirmary of Edinburgh.

London, October 19, 1849.

DR. W. R. CLANNY ON CHOLERA.

[To the Editor of the Medical Times.]

SIR,—I take leave to offer a few observations in respect to the epidemic and endemic nature of the cholera.

From the first appearance of the pestilence in this town to the present time, I am firmly impressed, that, upon its first appearance, whether in towns or in villages, it uniformly appeared to be of an epidemic character; but, in process of time, from innumerable cases, I am satisfied that it generally showed an endemic type, especially from emanations from the dead. It may not, perhaps, be too much to request you, Sir, to reprint a few paragraphs from my work on cholera published in 1832, which is now, I believe, nearly out of print:—

"At the workhouse, at that time, there were near 140 inmates, fifteen of whom died of epidemic cholera, including the sister-in-law and, afterwards, the master of the workhouse himself. This person had been for many months, from every appearance, obnoxious to apoplexy; and, as I had known him from his boyhood up, I warned him on this point at different times previous to his attack of cholera. I understand, from his professional attendant, that his was the epidemic cholera of rapid type, or "la cholera foudroyante" of French authors.

"As, in such cases, the patient seldom lived more than twelve or fourteen hours after the attack, the relations and friends of the patients, being astonished at the new phenomenon, were too apt to crowd round the sufferers, and many of them had reason to rue their temerity. But it was whilst performing the last sad offices for the dead, that contagion showed its greatest force, and such cases in this town were astonishingly numerous, so much so, that it is quite unnecessary to particularise them. Such of the faculty of this town as believed that we had epidemic or spasmodic cholera amongst us, will bear me out in this remark.

"At an early stage of our visitation, in consequence of information kindly furnished me by Lieut.-Colonel Rowles, E.I.S., I put the clergymen, and others who were likely to be near the dead, upon their guard, and showed the impropriety of taking the bodies

of cholera patients into our churches, in the performance of funeral service; and carriage by ropes from the hand, or by suitable conveyances, were strenuously recommended, and I hope, as often as could be, were put into practice. In these arrangements the Board of Health showed much anxiety. Many medical men of Sunderland are impressed that our first attack of epidemic cholera was directly owing to atmospheric distemperature; but how or when that state of atmosphere commenced, no man can say. It appeared to me that we all felt this atmospherical influence one way or other."

"I communicated Colonel Rowles' letter to the Government, and soon afterwards they issued a stringent order for early interment of the bodies of fatal cases of cholera throughout the empire, which has not been rescinded up to the present time.

"I have just received the enclosed Report from my friend, the Rev. A. Bethune, incumbent of Seaham Harbour, and J. P., which appears to me to be exceedingly interesting, as it shows the direct endemic character of the cholera.

Date of Illness.	Name.	Result.	Remarks.
Oct. 4	— Cowell (trimmer)	Died Oct. 4	A man of regular habits; felt poorly for some days before.
5	Mrs. Harrison	Died Oct. 5	Nursed Cowall and washed his clothes.
5	Mrs. Goodwill	Died Oct. 6	Daughter of Cowell; pregnant.
5	Mr. Goodwill (butcher)	Recovered	Husband of last.
6	Margaret Henderson	Died Oct. 6	Friend and neighbour of Mrs. Goodwill, an much with her; a healthy ung woman.
6	——, a joiner	Recovered	Measured and [illegible] Cowell.
6	Mr. Bailey	Recovered	Visited Cowell in his sickness.
6	Mrs. Bailey	Recovered	Ditto ditto
6	Mrs. Richard Pendlington	Recovered	Attended Cowell in his illness.
7	Quilter (a child)	Died Oct. 9	Living in the same house with the Goodwills.
7	Mrs. Henderson	Recovered	Mother of Margaret Henderson.
7	Margaret Fairles	Recovered	Attended Mrs. Goodwill.
9	Kinross (young girl)	Recovered	Attended Margaret Henderson.
7	Ann Davison	Recovered	Also attended Margaret Henderson.

For three weeks before Cowell's case, there had been no case of cholera at Seaham Harbour, and there has been no case since in Kinross. The above were the only cases at the time in the place.

Oct. 23. A. B.

I will not now enter further upon the subject, in the hope that you, Sir, or some of your numerous readers, may be induced to prosecute this interesting subject.

I remain, Sir, your obedient humble servant,
W. Reid Clanny.

Bishopwearmouth, 23rd Oct., 1849.

DR. DINGHAM ON CHOLERA AND ITS TREATMENT.

[To the Editor of the Medical Times.]

Sir,—The object of the present communication is not to swell the long list of remedies and plans of treatment proposed for cholera, but rather, in as condensed a manner as possible, to give the results afforded by the different methods I have pursued in those cases which have fallen under my notice.

First, then, I would observe, that during the epidemic which has so fearfully visited this place, I have seen three distinct forms, or, rather, three different degrees of malignity or virulence, marking the first onset of disease, and thus early determining the probable course and termination of the case.

The disease, in the first form, is ushered in by no premonitory symptoms. The patient is suddenly seized (having been previously in sound health), it may be with sickness, cramps, or pain in the abdomen. The bowels are emptied of their contents, so to speak, with a gush; a copious serous dejection soon follows, to which collapse immediately succeeds. For such a case as this, art is without remedy, and medicine useless; nor, indeed, is it to be expected that the advance of science will furnish us with any resource capable of combating with a malady so frightfully rapid in its progress, and producing such intense and sudden prostration. Persons thus attacked are hopeless from the moment of the first seizure.

In the second form there is bilious diarrhœa of longer or shorter duration, passing on into rice-water dejections, cramps, and vomiting, suppressed secretions, and the usual symptoms of cholera. But the nervous and vascular depression is neither so sudden nor pronounced as in the former instance. The skin, although reduced in temperature, still retains somewhat of its natural warmth and appearance; the discharges from the bowels, although often involuntary, are not copious, and collapse is more distant and tardy in its approach.

In the third form, the advance of this disease is much slower. Simple diarrhœa continues, it may be, a week or longer, before cholera symptoms show themselves. The close observer, however, will detect the difference between this and the usual autumnal diarrhœa. He will find it yield to the ordinary remedies less readily; is not attended with diseased secretions or injesta; the appetite is generally good, and slight irregular spasmodic pains are often complained of. This form of attack, if properly treated, seldom runs into collapse, and may be more correctly called "choleroid diarrhœa."

The treatment I have adopted has been different, according to the stage of the disease, and also experimental, to determine, as far as I could, the value of different plans. In the third, or last form I have described, when the diarrhœa continues for a long time, where the chalk mixture with opium failed, which it sometimes did, I always found the acetate of lead, given in the form of pill (3 gr.) every hour or every second hour, effectually check the disease. A strong astringent appears to be the great requisite here; and the only objection to the acetate of lead is, that the stomach will sometimes not tolerate it. But, by persevering in the remedy, combining it with opium, and occasionally administering stimulants in small quantities, together with counter irritation over the abdomen, and rigid adherence to the recumbent posture, I have always found the symptoms gradually give way, and the patient recover.

In the second and more aggravated form, the greatest difficulty I have experienced has been to get anything to remain on the stomach. Influenced by the popularity of Dr. Stevens' saline treatment, I gave an early trial to his chlorate of potass and soda powders, with the hot saline bath. Out of four cases treated this way, we were obliged to discontinue the remedy in two, on account of the intense sickness it produced. The powders were not retained a moment, and at last they were abandoned, as no benefit was likely to result from a medicine which was expelled as fast as it was taken.

In two of the cases they were persevered in throughout: both terminated fatally.

In ten cases, one-grain doses of calomel were given every half-hour;—out of these, three recoveries. It must be acknowledged, that some of them were not seen till collapse had actually taken place, so that this loose statement must not be taken as a fair trial of the remedy. To say truth, I had not much faith in the mysterious action of small doses of mercury, notwithstanding the high authority in its favour. Acetate of lead here, as in the former instance, only in larger doses, (5 grains every hour,) has proved most beneficial. It appeared to check the rice-water dejections and tendency to collapse in the bulk of those cases in which I used it. Frequently, however, it failed. Never, in any example, did I see any benefit arise from it when given to collapsed persons; it rather increased their sickness and misery. Its great value is most evident when given at the commencement of a case, and steadily persevered in throughout. No danger need be apprehended from its use. I have known one patient take as much as 70 grains in the day, and have it also administered in the form of enema, by which means the disease was eventually got under. Creasote and effervescing mixtures, sometimes relieved and sometimes aggravated the sickness. As for the former, if it did not at once improve the symptoms, it was quite useless to persevere with it. Cold water I always allowed, and it was truly surprising the quantity some persons swallowed.

Out of 30 persons in a state of collapse, I bled, or attempted to bleed, 12, and my friend Mr. Allen, who has been far more successful than myself, has bled a still larger number, and informs me that he has had five cases of recovery from decided collapse follow from an early and full bleeding.

In my own cases, some of them were seen for the first time after being either neglected or quacked; others had been under treatment before; all of them were cold, blue, pulseless, more or less cramped, with a whispering voice, suppressed secretions, involuntary discharges of serous fluid, vomiting, and great thirst. This condition, of course, varied in intensity; in some it was more advanced than in others. The above description, however, applies pretty accurately to them all. Two of the twelve on whom venesection was performed recovered. These are the only examples of recovery that I have seen from the collapse of cholera. In many instances, however, marked relief followed blood-letting; the vomiting was sometimes relieved, and the cramps always; and the labouring action of the heart, which was my guide as to when bleeding was requisite, became more tranquil. The patients themselves always expressed themselves relieved. Sometimes it is a very difficult matter to get blood to flow; but, by making a large orifice, and squeezing out the thick, tarry fluid for a little time, it eventually comes pretty freely. I have found, that removing the bandage from above the orifice occasionally facilitated the bleeding.

Already this Article has been extended beyond the limit I at first proposed to myself. I will conclude by stating, that I shall be happy to furnish any gentleman with the particulars of such cases as he may require.

I am, &c.,
John Dingham, M.D.

Gainsboro' Sept. 29, 1849.

LETTER FROM DR. BASCOME ON DR. COPLAND'S VIEWS OF CHOLERA.

[To the Editor of the Medical Times.]

Sir,—However much I may respect the erudition and laborious research of Dr. Copland, especially exemplified in his "Dictionary of Practical Medicine," I cannot let pass without notice the dogmatical opinions propounded by him, not only in his Dictionary, but repeated in a letter published in the *Medical Gazette* of 28th ult., to the effect that pestilential cholera is a disease, *sui generis*, and that it is contagious.

In his letter the Doctor observes, whatever "*twattle* may appear on the subject of non-contagion, of non-infection," &c. &c., and very pompously concludes, "that pestilential cholera will some day—(when?)—be acknowledged to be what I (*ego*) have long ago, and again more recently, *endeavoured* to show it to be, according to the most irrefragable evidence," &c. &c.

Now, with due deference to Dr. Copland, I, who have practised professionally for more than twenty years amongst the most deadly epidemics, endemics, &c. &c., viz., cholera, yellow fever, &c. &c., take leave to differ with him as to cholera or yellow fever, as stated in his Dictionary, being a malady, *sui generis*, or contagious; and in this opinion I am not singular, inasmuch as I am fully borne out by the *practical* experience of very many talented men who have, I may with safety venture to say, seen very much more of both diseases than himself, and whose acumen and general knowledge of disease would not be found wanting, should their *twattle* on the subject of non-contagion, &c., as also their opinion as to pestilential cholera not being a disease, *sui generis*, be tested with Dr. Copland's erudition, I defy it to be shown by any but the most negative evidence or proof, as it is called, that cholera is a malady, *sui generis*, or that it has ever been propagated, as Dr. Copland should state in his letter, "by a specific infectious emanation, *proceeding from* the sick," and which the Doctor says he has *endeavoured* to show by the most irrefragable evidence.

That the Doctor has endeavoured to show I freely admit; but that he has *shown*, I deny. That Dr. Copland's opinion is entitled to respect no one feels more than I,—also that it is worth a certain amount, but no more. Yet, when he so dogmatically propounds, in a medical periodical, doctrines on a subject of which there is an immensity yet to be searched after and learnt; and when propounding such doctrines sneeringly designates the opinions of medical men of very far greater practical experience than himself, twattle, he must be reminded that he is not infallible in a science which is scarcely recognized by many as such, so very imperfect are its principles, and that the opinions of others are entitled to quite as much respect, and are considered quite as valuable as his.

I am, Sir, your obedient Servant,
Edward Bascome, M.D.

October 10, 1849.

DR. W. L. RICHARDSON ON THE SALINE TREATMENT OF CHOLERA.

[To the Editor of the Medical Times.]

Sir,—In my last communication on Pestilential Cholera, I laid before you the unhappy result of a treatment by repeated small doses of calomel; one claiming many adherents, and which was said, in the

hands of some, to be fraught with incalculable benefit to a community suffering presently from the arm of the Angel of Death.

My object in again troubling you is to record five cases, treated on the saline plan of Dr. Stevens, one even more highly lauded than the former. As it is not my intention at present to theorize, I shall not enter upon the views of the upholders of either system, considering that to one surrounded by the dying and the dead, speculation gives place to facts, death proving many a syllogism to be incorrect in its major premise.

Many may, and have, I doubt not, charged me with carelessness of human life, in continuing, as I did, the calomel treatment through eighteen cases, one only of which survives, presenting a sore mouth and the loss of a few teeth. In the present instance, therefore, I discontinued this treatment, after having satisfied myself of its total inutility in four cases out of five. In these, as in the former, I endeavoured to avoid laying myself open to any charge of having deviated from the practice of the originator; and have adhered strictly to the formulæ given in the *Medical Times* of September 1st.

No.	Age	Sex	STATE ON ADMISSION. Temperature reduced, Voice and Expression altered; Pulse small and frequent. Collapsing.	Temperature much reduced; Lividity; Voice Choleraic; Pulse Indistinct—very small. Partial Collapse.	Temperature very much reduced; no Pulse at wrist; more or less Insensible. Complete Collapse.	Amount of Salines Administered.	Lived after Admission.	Passed into Re-action, when.	Made Water, when.	Died in Collapse.	Died in Consecutive Fever.	Recovered.
1	28	M	1	......	......	Sodii. Chlorid. ℥vii. Potass. Chlorat. ʒiii. Sodæ sesquicarb. ʒiiss. Enema also.	7 hours	...	...	1	...	...
2	40	F.	......	......	2	Sodii. Chlorid. ℥v. Potass. Chlorat. ʒii. Sodæ sesquicarb. ʒi. ℈ii. Enema also.	4½ hours	...	...	1	...	...
3	32	F.	3	......	......	Sodii. Chlorid. ℥vii. Potass. Chlorat. ʒiii. Sodæ sesquicarb. ʒvi.	9 hours	...	...	1	...	...
4	48	M.	4	......	......	Sodii. Chlorid. ℥viii. Potass. Chlorat. ʒv. Sodæ sesquicarb. ℥iiss.	...	in 10 hours	30 hours after admission	...	...	1
5	45	F	......	5	......	Sodii. Chlorid. ℥viii. Potass. Chlora. ʒiiss. Sodæ sesquicarb. ʒviiss.	27 hours	...	...	1	...	...

These cases present really little of interest beyond the mere fact of the absence of any curative effect in four. I may state that I found it a matter of some difficulty to induce the patients to take the saline mixture; but pressed such upon them so long as they possessed the ability to swallow,—cheating them and myself with hopes of their recovery. Private Practitioners may thus, I doubt not, be deterred from giving what they consider a fair trial to this plan; and owing, in some measure, to this, I have met with many whose views were not conclusive on the present treatment.

And now, Sir, the question naturally presents itself to every reasoning mind, whence the discrepancy between these reports, and those issuing from London and Hull? Such can, I think, rest on one of three points only.

1st. The mis-statement of facts.

2ndly. The non-agreement of the remedies, either in quality or quantity.

3rdly. The non-agreement of the terms expressive of the disease.

I cannot, for one moment, allow the first of these a consideration, in reference to the cases brought forward by the advocates of the respective systems; nor can I charge myself with any want of candour; this, therefore, falls to the ground.

As regards the second, all chances of probabilities are in favour of the analogy of the drugs in point of quality, and my own senses' evidence of the quantity administered; this, therefore, also falls to the ground.

The third point becomes thus the only one tenable,—namely, the non-agreement of the terms expressive of the disease.

It may be a peculiarity, and one hitherto unobserved, of this malady, that its features differ in localities separated, not by climates, but by counties; that while we expect quinine to act as a specific in intermittent fever, whether administered at London, Hull, or Edinburgh, calomel and salines exert their dominion over cholera in limited spots only. This, however, to say the least, is not probable, and I am forced, therefore, to the conclusion, that our reports have been drawn from cases not strictly in unison, as regards the disease at issue.

I am, Sir, your obedient servant,

W. LINDESAY RICHARDSON, M.D.

Edinburgh Cholera Hospital,

Sept. 23, 1849.

DR. CONOLLY AND THE COMMISSIONERS IN LUNACY *versus* THE LORD CHIEF BARON, TOUCHING THE CASE OF NOTTIDGE *versus* RIPLEY.

" Audi alteram partem."—Virgil.

[To the Editor of the Medical Times.]

SIR,—In an able leading Article, contained in the *Medical Times* of September 22, 1849, you have made some very pungent remarks relative to the working of the existing law of Lunacy, and the official conduct of the Lunacy Commissioners.

As the treatment of insane persons, and the management of lunatic hospitals has occupied a large share of my time and attention, during the last ten years, I trust you will, on the *audi alteram partem* principle, allow me to offer a few practical observations thereupon.

Before doing so, however, I think it right to state, that I am a perfectly disinterested party in the present matter, not being officially connected with any lunatic establishment, public or private. This preliminary statement appears the more necessary, as I find that an attempt has been made to place my learned friend, Dr. Conolly, *hors de combat*, on the plea of his being the proprietor of " a private lunatic establishment." Dr. Conolly is quite competent to break a lance with any champion who may enter the lists against him; nevertheless, I cannot help expressing my conviction, that his late admirable " Remonstrance with the Lord Chief Baron" was dictated by feelings of the purest philanthropy, and not from any sordid considerations of " filthy lucre." Dr. Conolly, by means of his invaluable clinical lectures on Insanity, and his able advocacy, (both by precept and example,) of " the humane system of non-restraint," has established for himself a more than European reputation, and may his life be long spared to reap the fruits of his arduous exertions. Let us, however, proceed to the points at issue. In the course of a late trial " Nottidge *v.* Ripley," (of which there is an excellent report in the eighth Number of Dr. Forbes Winslow's *Psychological Journal,*) the Lord Chief Baron is reported to have given utterance to the following dicta :—" It is my opinion that you ought to liberate every person who is not dangerous to himself or to others. If the notion has got abroad, that any person may be confined in a lunatic asylum or a madhouse, who has any absurd, or even mad opinion, upon any religious subject, and is safe and harmless upon every other topic, I altogether and entirely differ with such an opinion, and I desire to impress that opinion, with as much force as I can, in the hearing of one of the Commissioners. Now, with all due deference to the legal wisdom of the learned Chief Baron, I can scarcely conceive a more mischievous or dangerous doctrine, (whether as regards the welfare of the insane themselves, or the comfort and security of society,) to have emanated from the lips of mortal man. How much more, then, is the evil enhanced as issuing from such high official authority? What would be the consequences of carrying out this *ex-cathedrâ* doctrine of the learned Chief Baron." Thousands of lunatics, " not dangerous to themselves or to others," but yet a prey to the wildest delusions, and most horrible hallucinations, would, at " one fell swoop," be cast loose upon the vortex of society! Bedlam would, indeed, be let loose, as Dr. Conolly has truly remarked! And what physician, surgeon, or barrister, very learned in the law, (for these gentlemen would lay claim to a knowledge of all the intricate phenomena of mental derangement,) however versed in psychological studies, shall tell us, when persons labouring under mental illusions are dangerous, and when the reverse? How many frightful domestic tragedies are revealed to us through the columns of the weekly Press, where persons, driven on by some sudden and irresistible impulse, or ordered by some imaginary voice, have murdered their nearest and dearest relatives in cold blood, and afterwards terminated their own existence? Will such tragedies be diminished, or rather, will they not be increased tenfold, supposing the absurd dogma of the Chief Baron to be put in execution? The public Press, and other parties who have thought fit to laud the *seeming humanity* of the Lord Chief Baron, *know practically nothing of the real merits of the case.* Let them divest themselves of their prejudices, and visit the wards of some of our public lunatic hospitals, such as Lincoln, Northampton, Lancaster, Hanwell, &c., and the intelligent medical superintendents of those noble establishments would speedily furnish them ocular demonstration of insane persons, who, though " not dangerous to themselves or to others," still require, for their own safeguard, the healthy discipline and moderate control of a well-conducted hospital. Many of those parties who have joined in the senseless clamour against the Medical Profession, and their interference with the insane, know no more about the phenomena of mental derangement than the Pope of Rome. The Commissioners, in their lucid and well-digested letter to the Lord Chancellor, have endeavoured to place the matter in its proper light: they remark,—" The object of these acts is not, as your Lordship is aware, so much to confine lunatics, as to restore to a healthy state of mind such of them as are curable, and to afford comfort and protection to the rest. Amongst the many persons confined as being lunatics, or of unsound mind, those who are manifestly dangerous; that is to say, those who, by some overt act, have already proved themselves to be dangerous, are, comparatively, few in number; the far more numerous class consisting of, 1. Those who are sent into lunatic establishments for the purpose of treatment, with a view to the alleviation and cure of their malady; 2. those who, from disease of mind, are incapable of self-government, and who, therefore, require, at certain periods, (or, perhaps, generally,) the most careful supervision and control; and 3, those who are incapable of taking care of themselves or their affairs, and are likely, therefore, to sustain serious injury if left at large and unprotected. It may reasonably be asked, what would become of all these large classes of the insane, if set at large, in conformity with the Lord Chief Baron's opinion?" There appears to be an attempt now making to instil into the public mind a most unfounded prejudice against the Medical Profession, as regards their interference with the insane; the public Press appears to have got hold of the delusion, that medical men wish to exercise a despotic control over the liberty of the subject; this, I need not remark, is a great and grievous error. If lunatics are not isolated from their friends and the public, how is the medical

treatment, necessary for the cure of their malady, to be carried on? Mental derangement, in this respect, differs from all other disorders with which I am acquainted, namely, that it cannot be effectually treated unless the patient be removed from home. That medical men are not disposed to tyrannize over the insane, I may merely point to the improved moral and physical condition of lunatics generally, since the Parliamentary inquiry in 1815, and which improvement I believe to be mainly owing to the unceasing and disinterested exertions of the Medical Profession. But to return to our subject:—As a proof of the dangerous effects resulting from the release of lunatics from the salutary control of asylum discipline, I shall take leave to quote the particulars of a case which happened, under my own observation, at Lincoln. W. C. H., a surgeon, who had been for several years confined in the Lincoln Lunatic Hospital, was sent home (after due notice to that effect), in consequence of his wife having become greatly in arrear of payment for his maintenance, &c. This patient had been under my observation for more than two years; but was not considered by me, or, I believe, any other Medical officer of the Establishment, as "dangerous to himself or to others." As a proof of which he was allowed considerable latitude about the house and grounds; and even occasionally assisted me in the Dispensary in compounding drugs, &c.; in fact, this patient, like many others, was very manageable whilst under asylum discipline; but no sooner did he arrive at home (Falkingham) than "a change came o'er the spirit of his dreams." In the house occupied by his wife, there lodged a clergyman; the maniac, now left to indulge his "wayward fancies" uncontrolled, speedily got hold of the delusion, that the reverend gentleman had some improper connexion with his wife, (there was, so far as I could learn, not the slightest ground for such belief;) and, goaded to frenzy by the thought, he procured a double-barrelled gun, and would probably have put an end to the clergyman's life, but for the assistance of several constables; and, after a violent struggle, he was overpowered by numbers, and placed in the Falkingham Gaol, as the only place of safe detention, until measures could be taken for his removal to the Asylum. I should mention, also, that, from his great agility and feats of prowess on the persons of the turnkeys, that they magnified (such is often the case with respect to lunatics) his real powers, and put him in irons for further security. In my capacity of House-Surgeon to the Lincoln Asylum, I received this man on his re-admission, and shall not readily forget the extreme unction with which he related to the attendants and myself "the way in which he had drubbed the turnkeys, and how frightened they were of him, until they had got him chained up." He settled down very quietly with us, nor did we even find it necessary to place him in the refractory ward. So true it is, that lunatics, seeing an overpowering force of practised attendants about them seldom attempt violence; this is the grand secret in all Lunatic Hospital management. My esteemed friend, Dr. Conolly, in his able Remonstrance with the Lord Chief Baron," has so forcibly exhibited the reasons why certain lunatics, "not dangerous to themselves or to others," are still unfit to be at large, that I shall offer no observations upon that subject, further than to express my entire accordance with the views which he has there so clearly expounded, and to which no one (either of the legal fraternity, or the public press) has yet ventured a reply.

I shall now, Mr. Editor, take leave to comment upon some of your own observations, in the article before alluded to. First, "We have reason to believe that the Medical Profession and the public are equally dissatisfied with the administration of the existing law of lunacy, which does not appear to provide any adequate protection for the liberty of the subject when accused of being insane; and which does not afford any guarantee that persons who, unhappily, are so afflicted, and whom it may be necessary to place in confinement, shall be treated with kindness and humanity." Now, Sir, with regard to the Medical Profession not being satisfied with the working of the present law of lunacy, I must beg to observe that the great mass of the Profession (always excepting those officially connected with public or private lunatic establishments) know literally nothing concerning the proper treatment of insane persons. I say this advisedly—as the result of my own observation; and deeply regret that it should be so: my own case was precisely similar on being appointed to the Lincoln Asylum in April, 1840. Moreover, this evil is not likely to be materially abated until Government steps forward and peremptorily throws open the wards of every public lunatic hospital in the kingdom, for the purposes of clinical instruction; and further demands that every person hereafter entering the portals of the Medical Profession (be he Physician, Surgeon, or Apothecary) shall be carefully examined (by competent judges) as to his practical acquaintance with the phenomena and treatment of mental disorders. This is the only real and effectual remedy for our present grievances. What signifies making new laws on lunacy, when nine-tenths of the Medical Profession know not how to treat the disease when they see it? We have, now, probably, 10,000 incurable lunatics in England and Wales. Would a fresh law of lunacy restore the natural functions of a brain reduced (by neglect or improper depletive remedies) to absolute fatuity? Let our efforts be directed against the *fons et origo mali*, and not against the remote effects of the malady. I make serious objection to your phrase "accused of being insane." Insanity is not a crime or a disgrace, but a heavy dispensation of Providence; many persons so afflicted have not brought on the malady by any misconduct of their own, and this especially applies to hereditary insanity. In days gone by, it was, unfortunately, too much the practice to view this malady as a stigma, leprosy, or plague-spot; but thanks to the able advocacy of and Christian principles inculcated by many learned physicians relative to the true nature of insanity, such bigoted and superstitious views (worthy only of the dark ages) are now rapidly clearing away, and the mists of prejudice and intolerance are yielding to the bright rays of Christian benevolence and humanity.

To this supposed disgrace attaching to any family who may, unhappily, have a member afflicted with mental derangement, I attribute, in a great measure much of the cruelty, neglect, and privation, which have been visited upon the insane. Dr. W. F. A. Browne, one of our most enlightened and experienced Physicians in this department of medical science, has drawn a very forcible and faithful picture of this popular failing in the Seventh Annual Report of the Crichton Royal Institution for Lunatics, pp. 7 and 8:—"The confession is humiliating to our common nature; but it is necessary that it should be known that mental disease is regarded by the ignorant, and by many who are not so, with loathing and abhorrence, and leads to disruption and oblivion of the ties by which man and man, the strong and weak are, or ought to be, bound together. It will be found that this affection often establishes a barrier between those most intimately united by blood, or interest, or feeling; dissolves the contract of duty, affection, and honour; and consigns the sufferer to exile from those immunities and advantages of his position, which would contribute to comfort, and might lead to cure within a short period. I have seen a lunatic, who, bound and galled, and cut by his bonds, had been crushed and confined in a small hole beneath a stair, where, although deprived of every means to inflict injury, and dependent upon those who had shorn him of his former powers and privileges, he was shunned by his relatives, as the plague-stricken were formerly shunned. It is known that lunatics are immured in cellars, closets, and lofts; that they are allowed to wander nearly nude in the pitiless storm that they are ill fed, neglected, and cast out."

Doubtless, abuses still continue to exist in many lunatic establishments; but I am inclined to think, as the result of my own observation, in the treatment of insane persons in several counties of England, that were a balance-sheet strictly drawn between the management of patients in public hospitals, and that pursued in private establishments, and towards those in the custody of their own friends and relatives, a great preponderance of abuse, cruelty, and privation would be found on the side of the two classes last named; and, moreover, I will give a very powerful reason why such should be the fact. In our large well conducted public hospitals for the insane, the governing bodies, and the medical staff, feel a laudable pride in the admirable order, cleanliness, and contented appearance which (even to a casual observer) pervade their establishments and their patients, and, consequently, they freely court the public eye and public opinion; they take an absolute pleasure in showing that everything belonging to their patients, their grounds, their airing courts, domestic offices, &c., is at all times in order for review." This is a noble ambition, deserving of encouragement, and has tended (in the absence of higher feelings) greatly to ameliorate the moral and physical condition of the insane. But turn to the private asylums, and where do you find the freedom of inspection there? They are (to use your own emphatic and truthful remarks) hermetically sealed against the admission of visiters and friends. I speak confidently on this matter, having been refused admission to several private lunatic establishments. The Governors of the Lincoln Asylum, in their Fifth Annual Report, remark: "It may, indeed, be laid down as a principle in human nature, which experience will amply confirm, that no Institution of this sort can be considered safe in its management where the Managers are not subject to some eye unconnected with the government of the Institution itself. The public eye and public opinion have, in all cases, been found the most efficient; and the original rules of this Institution, wisely and humanely acting upon this principle, court and avow a system of public inspection under due regulation." Now, the principle here laid down, cannot be too extensively promulgated. No one, that I am aware of, has ever attempted to dispute its soundness, as applied to public Lunatic Hospitals; but, persons will tell you, that the principle cannot be applied to private establishments! Why not, let me ask? Are the inmates of the latter less liable to abuse, cruelty, and privation, than those of public Institutions? By no means; human nature is the same everywhere; brute keepers and indolent officers, who neglect their principal duty. Careful supervision of the patients and the demeanour of the attendants towards them, will be found, I fear, in both public and private establishments. Dr. Charlesworth, of Lincoln, has truly remarked: "From the peculiar nature of an asylum for the insane, the most horrible abuses may exist within its walls without suspicion, and almost without the possibility of detection. Sir Andrew Halliday has observed: 'The mystery which has been made to hover round the precincts of a mad-house, was sufficient to baffle common inquiry; and the utter seclusion, so insidiously inculcated, made it next to impossible to discover the scenes of horror that took place within its walls.' Hence our attention should ever be directed to a system of prevention, which can be rendered effectual only by keeping our grounds, courts, galleries, cells, offices, and, as much as possible, the persons of the patients, open to that rational inspection which our rules have provided for, and which general experience has shown to be safe as well as necessary." Will any person, who knows anything of lunatic management pretend to tell me, that the infamous neglect and abuse which characterised the whole management of the Haydock Lodge Asylum would have continued so long, if the public eye and public opinion could have had free access to its wards? Mr. Graham (then House-Surgeon of the Lincoln Asylum) and myself, both men officially connected with lunatic management, were refused admission, when we desired to observe the apartments occupied by private patients! My own opinion is, and it results from extensive observation, that this systematic exclusion of the public eye is one of the greatest evils to be found in private lunatic establishments. The Governors of the Lincoln Asylum, in their Fourteenth Annual Report, pages 6 and 7, have truly remarked: "The popular belief in the ungovernable ferocity of the insane, encouraged by persons more studious of their own ease and enjoyment than that of the patients entrusted to their care, has been very mischievous, and has tended to excuse restraints and other severities, on the assumption of their necessity; whereas, in truth, it is this very practice which renders the complaint intractable, and gives to it a character of exacerbation, seeming to justify both the prejudice and the treatment. Such prejudices and their consequences can only be corrected by opening examples of a milder management to the inspection of society, which has a deep personal concern in the mild or harsh treatment of a complaint which may affect any, either personally, or through relatives and friends.

Dr. Farre observes: "The words of the talented Samuel Tuke on this subject are golden: 'I believe that I am not too sanguine when I say, that for one evil arising from accidental visitation, ninety-nine will be prevented. The evils of visitation are speculative bugbears, to which practical men have too often found it convenient to give the character of reality.'"

There are several other points in the Article alluded to, which I should wish to remark upon; but the present paper having already reached an inconvenient length, I will, Mr. Editor, with your kind permission, discuss them in a future communication.

I am, Mr. Editor, yours very faithfully,

William Smith, Surgeon, &c.

Belper, South Derbyshire, Oct. 17, 1849.

[Upon the *audi alteram partem* principle, we have much pleasure in giving insertion to the above letter. Indeed, we are anxious to hear, no matter from what

quarter, whether anything can be advanced in defence of the present defective state of the Law of Lunacy. The subject is one which invites discussion, with a view to suggesting some plan for its alteration and amendment. We reserve, therefore, our observations on Mr. Smith's letter until we have time to throw out some suggestions for the amendment of the present state of the law and government of public and private Lunatic Asylums.—Ed. *Med. Times.*]

MEDICAL WITNESSES ACT.

"Whereas it is expedient to provide for the attendance of medical witnesses at Coroners' inquests, also remuneration for such attendance, and for the performance of *post-mortem* examinations at such inquests; be it therefore enacted, by the King's Most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, That from and after the passing of this Act, whenever, upon the summoning or holding of any Coroner's inquest, it shall appear to the Coroner that the deceased person was attended at his death, or during his last illness, by any legally-qualified Medical Practitioner, it shall be lawful for the Coroner to issue his order, *in the form marked (A) in the schedule hereunto annexed*, for the attendance of such practitioner as a witness at such inquest; and if it shall appear to the Coroner that the deceased person was not attended at or immediately before his death by any legally qualified medical practitioner, it shall be lawful for the Coroner to issue such order for the attendance of any legally qualified medical practitioner being at the time in actual practice in or near the place where the death has happened; and it shall be lawful for the Coroner, either in his order for the attendance of the medical witness, or at any time between the issuing of such order and the termination of the inquest, to direct the performance of a *post-mortem* examination, with or without an analysis of the contents of the stomach or intestines, by the medical witness or witnesses who may be summoned to attend at any inquest; provided that if any person shall state upon oath before the Coroner that in his or her belief the death of the deceased individual was caused partly or entirely by the improper or negligent treatment of any Medical Practitioner or other person, such Medical Practitioner or other person shall not be allowed to perform or assist at the *post-mortem* examination of the deceased.

"II. And be it further enacted, that whenever it shall appear to the greater number of the Jurymen sitting at any Coroner's inquest, that the cause of death has not been satisfactorily explained by the evidence of the Medical Practitioner or other witness or witnesses who may be examined in the first instance, such greater number of the Jurymen are hereby authorised and empowered to name to the Coroner in writing any other legally qualified Medical Practitioner or Practitioners, and to require the Coroner to issue his order, in the form herein-before mentioned, for the attendance of such last-mentioned Medical Practitioner or Practitioners as a witness or witnesses, and for the performance of a *post-mortem* examination, with or without an analysis of the contents of the stomach or intestines, whether such an examination has been performed before or not; and if the Coroner, having been thereunto required, shall refuse to issue such order, he shall be deemed guilty of a misdemeanour, and shall be punishable in like manner as if the same were a misdemeanour at Common Law.

"III. And be it further enacted, that, when any legally-qualified Medical Practitioner has attended upon any Coroner's inquest in obedience to any such order as aforesaid of the Coroner, the said Practitioner shall, for such attendance at any inquest in Great Britain, be entitled to receive such remuneration or fee as is mentioned in the Table marked (B) in the schedule hereunto annexed; and, for any inquest held in Ireland, the said Practitioner shall be paid in the manner provided by the laws in force in that part of the United Kingdom; and the Coroner is hereby required and commanded to make, according to the form marked (C) in the schedule hereunto annexed, his order for the payment of such remuneration or fee, when the inquest shall be held in Great Britain, and such order may be addressed and directed to the Churchwardens and overseers of the parish or place in which the death has happened; and such churchwardens and overseers, or any one of them, is and are hereby required and commanded to pay the sum of money mentioned in such order of the Coroner to the medical witness therein mentioned, out of the funds collected for the relief of the poor of the said place.

"IV. Provided nevertheless, and be it further enacted, that no order of payment shall be given, or fee or remuneration paid, to any Medical Practitioner for the performance of any *post-mortem* examination which may be instituted without the previous direction of the Coroner.

"V. Provided also, and be it further enacted, That when any inquest shall be holden on the body of any person who has died in any public Hospital or Infirmary, or in any building or place belonging thereto, or used for the reception of the patients thereof, or who has died in any County or other Lunatic Asylum, or in any public Infirmary or other public Medical Institution, whether the same be supported by endowments or by voluntary subscriptions, then and in such case nothing herein contained shall be construed to entitle the medical officer whose duty it may have been to attend the deceased person as a medical officer of such Institution as aforesaid to the fees or remuneration herein provided.

"VI. And be it further enacted, that where any order for the attendance of any Medical Practitioner, as aforesaid, shall have been personally served upon such Practitioner, or where any such order, not personally served, shall have been received by any Medical Practitioner in sufficient time for him to have obeyed such order, or where any such order has been served at the residence of any Medical Practitioner, and in every case where any Medical Practitioner has not obeyed such order, he shall, for such neglect or disobedience forfeit the sum of five pounds sterling, upon complaint thereof made by the Coroner or any two of the jury before any two justices having jurisdiction in the parish or place where the inquest under which the order issued was held, or in the parish where such Medical Practitioner resides; and such two justices are hereby required, upon such complaint, to proceed to the hearing and adjudication of such complaint, and, if such Medical Practitioner shall not show to the said Justices a good and sufficient cause for not having obeyed such order, to enforce the said penalty by distress and sale of the offender's goods, as they are empowered to proceed by any Act of Parliament for any other penalty or forfeiture.

"VII. And be it enacted, that nothing in this Act contained shall extend to Scotland.

"TABLE OF FEES.

"1. To every legally qualified Medical Practitioner for attending to give evidence under the provisions of this Act, at any Coroner's Inquest whereat no *post-mortem* examination has been made by such Practitioner, the fee or remuneration shall be one guinea.

"2. For the making of a *post-mortem* examination of the body of the deceased, either with or without an analysis of the contents of the stomach or intestines, and for attending to give evidence thereon, the fee or remuneration shall be two guineas."

QUEEN'S COLLEGE, CORK.

The matriculation examination will be held on Tuesday and Wednesday, the 30th and 31st of October, and the scholarship examination on Friday, Saturday, and Monday, the 2nd, 3rd, and 5th of November, 1849.

Supplemental matriculation examinations will be held on Tuesday, 13th November, 1849, and at the commencement of the Second Term of the Collegiate Session—viz., on Tuesday, 8th January, 1850.

The several departments of the College will open for public instruction on Wednesday, the 7th November, 1849.

President, Sir Robert Kane, F.R.S., M.R.I.A.; Vice-President, John Ryall, LL.D.

Faculty of Medicine.—Anatomy, Physiology, and Practical Anatomy.—Practice of Surgery, Dennis B. Bullen, M.D.; Practice of Medicine, D. O'Connor, M.D.; Materia Medica, A. Fleming, M.D.; Midwifery, J. A. Harvey, M.D.; Chemistry, J. Blyth, M.D.

Previous to being admitted to the matriculation examination in arts, each candidate will be required to pay to the bursar of the College the matriculation fee and a moiety of the class fees for the session, amounting together to 7*l*., which will be returned to the candidate in the event of his failing to pass the examination. Payment of the remaining moiety of the class fees for the session, amounting to 4*l*, will be required from the student before the end of the first term. Scholars will be exempted from this latter payment of 4*l*. The matriculation and class fees for the first year in the school of agriculture will be 7*l*. 10*s*. for students, and 4*l*. 10*s*. for scholars.

The lectures of the several Professors will be open to persons not matriculated students, on payment of the regulated fees.

The Professor of Chemistry will be prepared to receive a limited number of working pupils into the laboratory, who will receive instruction in chemical manipulation and analysis.

QUEEN'S COLLEGE, GALWAY.

[The regulations, scholarships, &c., are precisely similar in each College.]

President, Very Rev. J. W. Kirwan, D.D.; Vice-President, Edward Berwick, A.B.

Faculty of Medicine.—Anatomy and Physiology and Practical Anatomy, Croker King, M.D., M.R.I.A., F.R.C.S.I.; Practice of Surgery, James V. Browne, M.D.; Practice of Medicine, N. Colahan, M.D.; Materia Medica, Simon M'Coy, M.D.; Midwifery, Richard Doherty, M.D.; Chemistry, E. Ronalds, M.D.

MEDICAL NEWS.

Apothecaries' Hall.—Names of gentlemen who passed their Examination in the science and practice of medicine, and received certificates to practise, on Thursday, Oct. 18, 1849:—David Morgan, Llandilo, Carmarthenshire; Josiah Pritchard, Milbourne, Wilts; Hay Sharpley, Louth, Lincolnshire.

War Office.—26th Foot—Staff Surgeon of the Second Class Andrew Ferguson, M.D., to be Surgeon, vice Heise, who resigns. 58th Foot—Assistant Surgeon Alexander George Montgomery, from the Staff, to be Assistant Surgeon, vice Bannatine promoted on the Staff. Hospital Staff.—Assistant Surgeon Richard Bannatine, from the 58th Foot, to be Staff Surgeon of the Second Class, vice Ferguson appointed to the 26th Foot.—Acting Assistant Surgeon Edward James Franklyn, to be Assistant Surgeon to the Forces, vice Montgomery, appointed to the 58th Foot.

Royal College of Veterinary Surgeons.—The following gentlemen, having undergone the necessary examinations for the diploma before the Court of Examiners appointed under the charter, have this year been admitted members of the College:—Thomas Cade, Devon; William Lockhart, Glasgow; Edward Evanson Ashe, Cork; Charle, Edward Barton, Coventry; John Finlayson M'Gill Ayrshire; William Aitken, Edinburgh; Thomas Secker, Knaresborough; Charles Barker, William Stephenson Thornton, Yorkshire; Alexander Robinson, Greenock; John Roalfe Cox, London; Whitfield Smith, Liverpool; William East, Aylesbury; William Clark, London; Richard Stone Blake, Castle Carey; Edward Garton, Loughborough; Stephen Evershed, Richard Barker, Middlewich; Thomas John Williamson, London; Alfred John Shorten, Ipswich; John Gates, Prescot; Edward Simpson Shove, Sudbury; Thomas Johns, St. Pancras; Matthew Stone, Wentworth; James Wright, Burnham Overy; Jeffrey Dawtrey, Petworth; John Davis Barford, Gayhurst; Alexander Mayor, London; Robert Gibton, Charles Turner, Carshalton; Thomas Cunliffe, Blackburn; Richard Glengall Kelly, Borrisokane; John Magrath, Castlebellingham; John Humphreys Lane, Goulton; Joseph Sampson Gamge, St. Pancras; Forbes A. Hely, Hounslow; William Thomas O'Donnell, Henry Michael Hancock, Ealing; Joseph Lawrence, India; Thomas Turner, junior, Croydon; William Cooper, Berkhamstead; Thomas Swainson Griffiths, London; Henry W. Cannell, Liverpool; John Samuel Woods, London; Joseph Reeve, Outwell; William Wallace, jun., Wolverhampton; Thomas Daniel Willshire, Merthyr Tydvil.

Obituary.—On Tuesday, the 6th instant, aged 25, Ray Charles Golding, M.D., eldest surviving son of Dr. Golding.—On the 17th instant, at 3, Storey's-gate, St. James's-park, John Wright, M.D., aged 44.—On the 16th instant, at his house in Clonakilty, in his 59th year, William Ffolliott, Esq., M.D.

University of Cambridge.—The degree of M.B. was, last week, conferred on John Anthony,

of Caius College. At the same congregation, Dr. Bond, of Corpus Christi College, was appointed Examiner for Medical Degrees during the ensuing year. We think the University has, in this instance, made a most judicious selection, as Dr. Bond, by his talents and experience, is eminently qualified for the important situation he is called to fill.

SANITARY STATE OF THE CITY OF LONDON.—We are not surprised that Cholera has proved so fatal in the city, when we find that so many houses are in the condition described in the following Report from the Commissioner of Police:—

"The sergeants of the force, who were selected for this duty, reported upon the state of 15,010 houses in the following several respects:—

"12,878 houses were reported as generally clean in appearance, but in many instances were found, upon close examination, to require special notice for one or more of the following nuisances:—

"2132 required whitewashing or other cleansing, on account of general dirtiness.

"2524 had offensive smells, from bad drainage and other causes.

"720 had filth or rubbish in the cellar.

"106 had stagnant water on the premises.

"51 were found offensive, from the deficiency of dustbins, and the necessary accommodation for refuse.

"446 were found in an offensive and unhealthy state, from bad or deficient drainage.

"154 were found in much need of water, or used water deteriorated by improper receptacles.

"109 presented the necessity of having their dustbins immediately cleared.

"148 presented nuisances of various descriptions unfavourable to health, not previously described.

"13,020 houses had privies and water-closets free from nuisance.

"1120 had privies and water-closets in a very offensive state.

"4608 had their privies in the cellars.

"4389 had their privies in passages and other parts of the houses.

"4991 had their privies in yards and outer premises.

"152 privies were used in common by more than one house.

"223 cesspools were found full of soil.

"30 had burst, or had overflowed.

"21 cellars were used as cesspools.

"40 drains were found to be choked with soil.

"The above Reports have reference to the internal state of houses; the following is the nature of outdoor nuisances:—

"103 reports have been made by the police of stinks from the drains, gratings, &c.

"92 of stagnant water in the streets or out-door premises.

"16 of accumulated deposits of offal, decayed vegetable, or other offensive matter in yards, wharfs, &c.

"36 of unwholesome trades, manufactures, or other operations.

"28 of urinals, or places used as such by the public, in an offensive state.

"32 of dung and dust heaps offensive to their neighbourhoods.

"51 of common privies complained of as nuisances.

"8 of various nuisances not particularly defined.

"In addition to these representations upon internal and external circumstances, 952 cases of actual cholera have been ascertained through the information of the medical attendants, and reported in the daily returns, of which number 635 have proved fatal, 286 have recovered, and 31 are still under treatment, or the result is not ascertained, the sufferers having been removed to the country.

TESTIMONIAL TO DR. BROWNLESS.—A public meeting of the friends of Dr. Brownless, and subscribers to the Royal General Dispensary, Aldersgate-street, and the Metropolitan Dispensary, Fore-street, was held last night, at the Queen's Hotel, St. Martin's-le-Grand (Mr. William Pritchard, High Bailiff of Southwark, in the chair,) for the purpose of carrying into effect the intention announced at a previous meeting in the Aldersgate street Literary Institution, of presenting Dr. Brownless with a testimonial of their esteem upon the occasion of his resigning his position as resident physician to both the above dispensaries. Resolutions were passed, imbodying the sentiments of the meeting in regard to this gentleman, and appointing a Committee to receive subscriptions, and to decide on the form of a suitable testimonial, and otherwise to carry into effect the object of the meeting.

THE HENLEY-ON-THAMES WATER PLAN.—Though we do not profess to be learned in geology, or to be cunning in detecting errors in calculations and estimates,—we regard, with great interest, the proposed plan for uniting all the Metropolitan Water Companies under one common form of government, and thus relieving us from the extortions to which we are now exposed. Some may think it will be merely substituting one tyrant for many,—but be it so,—it is a preferable state. One benefit, at any rate, will have been conferred upon us by the late invasion of cholera, in the bestowal of greater attention to the comforts of the poor, and most particularly in supplying them with that essential requisite to health and cleanliness,—pure water. Apart from the question of practicability, the plan advocated by the supporters of the Artesian system of procuring water, has a manifest advantage over the Henley, or any other project, as being the only means of obtaining water in a state of purity. It is, however, worthy of consideration, whether or not some plan of purifying the present fluid, (which is certainly better employed as a fertilizer of vegetables, than as a potation for man,) cannot be devised, in order to render it available for domestic and culinary purposes—as it is, it is utterly unfit for such a use. The subject is one of the greatest importance,—it *demands* the attention of every one,—an alteration *must* be made; and if, as may be expected, a struggle be unavoidable, the motto of the banner, under which we contend, should be, "Frigidum *sine*, non *fœtidum cum*."

WATER CUSHIONS.—Mr. George Sampson, of Chester-street, Belgrave-square, claiming the merit of introducing the use of the water-cushion, made of the sheet Indian rubber lined with water-proof cloth, in inflammation and ulceration of the skin of bed-ridden persons; we deem it only justice to Mr. Hooper, the Operative Chemist, of Pall-Mall, to state that he mentioned the subject to us in the spring of the current year, and then proposed to communicate a paper on the advantages of *his* water-cushion to the *Medical Times*. The great superiority of Mr. Hooper's cushions consists in being made of vulcanized Indian rubber, which will bear water of any temperature, and do not become offensive. Our readers will do well to test and to examine both plans for themselves.

SANITARY CONDITION OF NOTTINGHAM.—A very interesting Report of the sanitary state of the town of Nottingham has just been published, from which it appears that, in consequence of the care and vigilance of the Committee, appointed to superintend the health of the inhabitants, cholera has not been so fatal among them as in 1832. The example of Nottingham, we hope, will not be lost upon other large towns, for it is evident, by what has been done there, the inhabitants have escaped a large amount of mortality and sickness. From the statements contained in the Report, the following conclusions have been drawn:—That a constant and plentiful supply of good water; clean, dry, and well-drained streets and courts; a considerable extent of extramural burying ground; an active foresight on the part of the authorities; favourable public opinion and co-operation; and prompt medical aid, are most important means of preserving public health and of saving many lives. The Report further shows, how much can be accomplished at little expense, when there is judicious management, for, while London has expended more than 50,000*l*. in sanitary improvements, with but little practical benefit, Nottingham has laid out 150*l*. with the best results.

INTRAMURAL INTERMENTS.—On Tuesday evening the National Society for the Abolition of Burials in Towns assembled at their rooms in Bridge-street, Blackfriars. The President, Mr. G. A. Walker, took the chair, and during the proceedings a letter was read from the Board of Health, stating that the whole subject of intramural interment would be shortly taken under its consideration, and that the Board would be happy to receive, either at a personal interview or by letter, any suggestion which the experience of the President enabled him to furnish. The Chairman addressed the meeting at some length on the uselessness of leaden coffins to confine the dangerous gases which emanated from dead bodies. He stated that he had collected a large body of facts on the subject of intramural interments, all of which he was ready to place at the disposal of the Board of Health; and he bore testimony to the anxious desire of the Board to have the present pernicious system completely and finally abolished. He was followed by Mr. G. Godwin, who proposed a resolution to the effect, that Mr. Walker be requested to communicate to the Board of Health, the Society's anxious desire for the speedy abolition of intramural burial, and that he be also requested to assure the Board that the Society would aid it by every means in their power to effect that great national object. The motion was seconded by Mr. Rogers, a surgeon, and carried unanimously. Mr. Robert Watt, one of the Deputation appointed to inspect the burial-place of St. Giles's, Camden-town, stated that it was in a deplorable condition, and that its close proximity to the workhouse made it extremely injurious to the inmates. Other gentlemen addressed the meeting with reference to the re-opening of St. Bride's burial-ground, and the present condition of that of St. Pancras, in which, on Sundays, as many as 50 and 60 interments often took place. Dr. J. Evans drew attention to the grave-yards in Manchester. The whole parish burial-ground in that town had, he said, been disposed of to the Manchester and Leeds Railway Company for about 13,000*l*., but no provision had been made for the interment of the inhabitants in a manner suitable to the requirements of the age and the public health of the town. The proceedings of the meeting terminated with the usual vote of thanks to the Chairman.

SUPPLY OF WATER TO THE POOR OF LONDON.—At a meeting of the Metropolitan Commission of Sewers on Tuesday last, it was stated that the medical house visiters in the City still complained of the very limited supply of water to many poor districts. In some houses, the water-butts are old and too small; in others there are no receptacles for containing water; the New River Company had also discontinued supplying the inhabitants twice a-day. We think that landlords ought to be compelled to fix in their houses large stone cisterns adequate to supply the whole of the inmates. In wooden butts the water speedily turns foul and offensive, and thus becomes a fertile source of disease to those who partake of it.

PROPOSALS FOR ERECTING A MONUMENT TO DR. NICOL.—This gentleman was for many years the leading Medical Practitioner in Inverness, and recently died from an attack of cholera. Dr. Nicol was not only eminent as a physician, but was highly respected as a magistrate of the town in which he resided. The proposal to erect a monument to his memory has been received with such favour as renders it likely that it will be carried out. We are glad of this; for, where the community admittedly owe a heavy debt of gratitude, it is most seemly and becoming, that they should give some sensible expression of the obligation. Were this more attended to—were it more customary than it is, to record the public sense of services which the public owes to its benefactors, the public would be the gainer. Were young and generous youth, and even calculating age, only frequently reminded, by suitable memorials arising in the public ways of our cities, that thus were they honoured who laboured for the public weal, many a bosom would be fired to follow in the same paths, and to earn the same honourable record.

FEMALE UNIVERSITIES IN GERMANY.—Professor Fröbel, of Zurich, has resigned his post in that city in order to proceed as Professor to Hamburgh, in obedience to the call he received some time back from certain learned ladies who are about to form a university for females. We are not yet told what particular chair he is to fill. Female Professors are to be appointed.

MORTALITY TABLE.

(Metropolis.)

For the Week ending Saturday, Oct. 20, 1849.

Causes of Death.	Total.	Average of Five Autumns.
All Causes	1028	1162
Specified Causes	1022	1158
Zymotic (or Epidemic, Endemic, and Contagious) Diseases	277	307
Sporadic Diseases:		
Dropsy, Cancer and other Diseases of uncertain or variable seat	34	49
Tubercular Diseases	165	178
Diseases of the brain, Spinal Marrow, Nerves, and Senses	126	125
Diseases of the Heart and Blood-vessels	27	40
Diseases of the Lungs, and of the other Organs of Respiration	155	214
Diseases of the Stomach, Liver, and other Organs of Digestion	67	65
Diseases of the Kidneys, &c	13	11
Childbirth, Diseases of the Uterus, &c	6	10
Rheumatism, Diseases of the Bones, Joints, &c	5	8
Diseases of the Skin, Cellular Tissue, &c.	3	1
Malformations	4	4
Premature Birth and Debility	24	23
Atrophy	19	18
Age	42	57
Sudden	10	12
Violence, Privation, Cold, and Intemperance	40	36
Causes not Specified	1	4

The following is the number of Deaths occurring from some of the more important special causes —

Apoplexy	26	Heart	23	Phthisis	110
Bronchitis ...	42	Hooping cough	26	Pneumonia ..	80
Cholera...	41	Hydrocephalus	29	Scarlatina . ..	41
Childbirth	3	Influenza		Small pox ..	6
Convulsions ..	38	Liver	11	Stomach	5
Diarrhœa ..	51	Lungs...........	8	Teething	14
Dropsy	12	Measles	11	Typhus .. .	63
Erysipelas ..	8	Paralysis	18	Uterus	1

BIRTHS AND DEATHS.

	Births.	Deaths	Births over Deaths
Males	715	524	191
Females	648	504	144
Total......	1363	[illegible]	335

METEOROLOGY OF THE WEEK.

Day.	Mean of Barometer.	Mean of Thermometer. Dry.	Ditto. Dew Point.	Difference between the Mean Temperature of the day and the same day on an average of 7 years.	General Direction of Wind (A.M.)	General Direction of Wind (P.M.)	Amount of Horizontal Movement of the Air	Rain in Inches	Electricity *
Sunday	29·914	[illegible]	34·9	−7·9	A M N E	P M N N E	Miles 1[illegible]	0·14	P & tension moderate at 9 p m
Monday	29·952	44·0	36·8	−6·3	N N E	N E	[illegible]	1·60	P & ten strong at 9 a m, & weak at 9 p m
Tuesday....	29·928	45·9	39·3	−3·6	N	E	7[illegible]	0·1[illegible]	P & tension variable
Wednesday.	29·815	56·1	45·4	+7·3	E	S	170	[illegible]	Nothing
Thursday ..	30·043	59·7	51·8	+1[illegible]	S by W	S W & S	90	0·01	Nothing
Friday	29·839	59·5	51·0	+1·[illegible]	S S E	S E	49	0·0[illegible]	Nothing
Saturday .	29·7[illegible]4	59·1	52·6	+1·1	S & S.W	W S W	4[illegible]	0·0	P. & ten variable between 3 p m. & 9 p m.
Means ..	29·893	52·4	45·2	−1·6			Sum [illegible]	Sum [illegible]	

* In this Column, A stands for Active, N for Negative, and P for Positive.

TO CORRESPONDENTS.

"Mr. Gilbert, Civil Engineer," writes us, from Falmouth, as follows:—"I hope the hints or observations I am about to throw out, whether in accordance or not with the medical practitioner's views, will be received in the spirit in which they are given. . . . From long exposure to extreme climates, I have been subjected to frequent attacks of diarrhœa, so much so, that at times I have been very ill with it. The remedies usually resorted to in these cases generally produced such an opposite effect, that I suffered just as much from that as from the former. One day, while labouring under one of these severe diarrhœtic attacks, a friend of mine, a non-professional, recommended me to adopt his remedy in such case, i. e., a strong dose of lemon juice. It astonished me not a little, I can assure you; my friend pressed it so strong upon me, and, assuring me he had never found it to fail, induced me to come to this conclusion that the stomach was surcharged with an alkaline matter and became neutralized by the acid. This led me to examine the discharge from the bowels, which I found of a strongly alkaline character, I lost no time in providing myself with a moderate-sized lemon, the juice of which I pressed out into a tumbler, to which I added a little warm water and sugar. The dose being thus prepared, I drank it off, and, to my surprise and pleasure, in less than twenty minutes, I found my stomach and bowels soothed and the complaint stopped, and this unaccompanied with confined bowels, incidental to a sudden stoppage of diarrhœa, but followed by regular healthy stools I have but rarely found it necessary to repeat the dose, and have used this remedy, when required, for the last ten years, and have recommended it, and have given it to hundreds, of all ages, with the same success I mild cases, I have found two ounces of the common lemon, or acid drops, sold by druggists and grocers, dissolved in warm water and taken, has effected a cure In fact, since I first resorted to this, I have never gone on a journey either by land or water, without providing myself with a supply of 'acidulated drops' When I have found the attack severe, and unable to procure a lemon, I have used citric acid, as procured from the druggist, which I have dissolved in hot water The acid should be strong, particularly if the attack is severe. I believe any of the vegetable acids will have the same effect It may sometimes occur, that a diarrhœa may result from an excess of acid, I need not say that a neutralization of that is as easily to be effected in the stomach, through the agency of an alkaline, as the superabundance of alkaline by an acid Having submitted to you the results of my own experience on myself and others, allow me to suggest to you the use of a strong acid in diarrhœtic attacks, which I am convinced will be found perfectly safe and if the acid be judiciously managed in the hands of a medical practitioner, it may be found useful in cholera cases also, at all events, as it appears in most cases, cholera is preceded by diarrhœa it follows very naturally, that if the causes of diarrhœa be stopped, the progress of cholera may be arrested also '—Mr Gilbert will observe, that we have inserted all that portion of his letter which can be considered of the least interest to the Profession We scarcely think lemon juice administered to *hundreds of all ages suffering from disease*, can be considered as a *hint* merely to the medical profession It seems to us very like practising medicine on a large scale,—like driving an engine instead of suggesting an improvement in the machinery We think Mr G will thank us for having omitted his explanation of the *modus operandi* of lemon juice, when we inform him that we certainly *intended* to report Dr O Shaughnessy and M Simon to have said, that the stools were *acid* in ordinary diarrhœa We are not confectioners, but we have been informed, that acidulated drops are, in the majority of cases, made of sugar, acidulated with *dilute* SULPHURIC *acid*, and *flavoured* with *essence* of lemon

"Dr Hilbers '—One motive present to our minds, when we drew up the Cholera Tables was that of framing them in such a manner that we might be enabled to separate cases of cholera from cases of cholerine, and so estimate the results said to have been obtained from the employment of any given remedy We still think our opinion of Dr Hilbers' cases correct, in some of them the stools were brown, the surface warm and the urine passed freely Dr Hilbers ought not to demand from us a greater amount of credence than we give to others He will see from the present number of our Journal, that his success, if his statement simply is admitted in that the mortality among his patients was only 25 per cent, is by no means marvellous, for of 39 cases referred to by Dr Hastings, only 25 per cent proved fatal, and of the patients treated in King's College Hospital, during the same time, even a smaller proportion died, i e, only 20 per cent In 1832 of 1100 cases of cholera said to have occurred at Nottingham, 249 proved fatal, i e, 22 6 per cent. If simple assertion is to settle the question, and Dr Stevens assures us that out of 1100 cases of cholera treated by his salines was only 6 per cent., Dr Hilbers must abandon his homœopathic remedies, and administer Dr Stevens' salines And we do not see how Dr H can refuse to admit that minim doses of bisulphuret of carbon are as useful as minim doses of spirits of camphor, or infinitessimal doses of arsenic.

"H P J, of University College," is informed, in reply to his queries, that, if our recollection serves us right, four complete *anni medici*, or three winter and summer sessions, with additional hospital attendance, is required for the University of Edinburgh. Residence is only necessary during one year We should recommend H. P. J. to write to the Secretary of the Edinburgh University upon the subject H P J must improve his Latinity.

"Dr. John H. Agar, of Antigua," is thanked for his notice of puerperal convulsions treated by the exhibition of chloroform. We hope to find a place in our next number for his communication.

"Dr. Stiff."—Many thanks.

"J. M. B."—Certainly not. There is no difference to be observed as to the dispensing of medicines, whether the practitioner is an *extra licentiate*, licentiate, or fellow of the College of Physicians. The "threatened" penalty is expulsion.

"Medicus, of Newcastle-upon-Tyne."—Singleton's Eye-salve, or Golden Ointment, is prepared with equal quantities of sulphuret of arsenic and lard.

"Mr. Vidal's" case of Placenta Prævia will appear next week. It is a valuable addition to the cases of Dr. Waller.

"Chirurgus" writes us, that the names of the contributors to a Medical Journal are to be found strung together as a standing advertisement in a penny publication. We think it highly derogatory to the Profession; but we question much the propriety of publishing the caustic *expose* of Chirurgus, particularly as in the present case the fault seems to be more with the Publishers than the contributors. Again, the tone of Chirurgus is not the tone we wish the "Medical Times" to adopt We are, it is true, the champions of the Profession, and although we may be called upon to reprove its errors, we must do it in a very different manner Will Chirurgus call upon us at an early opportunity?

"Cambria"—Dr Golding Bird's Lectures on Galvanism have just been just published, price 5s. 6d. We will consider Cambria's suggestion.

"Mr Quain" and our readers must accept our apologies An accident prevents the appearance, in the present Number, of the Professor's excellent Clinical Lecture on Staphyloraphy, or Fissured Palate, treated by Operation.

"Mr Smith, of Belper," is unavoidably postponed.

"A Student of the Microscope" asks, what proof there is that the bodies lately described by Mr. J G Grove are the real Cholera fungi? The question is not a very easy one to answer inasmuch as our ideas as to what the cholera fungi actually are have been very much unsettled of late but we believe the objects figured by Mr Grove to be nothing else than ordinary mould arising from decay We recommend him to apply his microscope to a fine old Stilton cheese, and if he still believes in the propagation of cholera by bodies like those he has figured, he will probably deny himself that luxury for the rest of his life

"An Old Student of St George's"—Received

"Dr King, Saville-row"—Received

"Dr John H Agar Antigua, W I, Paper on Puerperal Convulsions treated with Chloroform," received.

"Mr F. G Wells"—Received.

"A London Surgeon" asks —'Can a person possessing merely the diploma of the London College of Surgeons practise in England If not what more is necessary?" Yes as a surgeon, but in order to recover at law for medicine and attendance in what are considered *medical* cases, he must have the Apothecaries' licence.

"Veritas"—The certificate of cause of death appears, from the statement of our correspondent, to have been improperly given, the patient having evidently died from typhus fever

From a press of matter, the Report of the Medical Society of King's College is postponed to next week.

"A Perplexed Student."—Both hospitals mentioned are very good ones

"A Subscriber Clonmel"—We believe Dr Mead

"The Son of a Subscriber"—We are unable just now to lay our hand on the formulæ our correspondent requires, if by next week we should be able to do so, we will give him the information he asks.

"Dr. James Arnott"—We have to acknowledge the receipt of a letter from Dr James Arnott, of Brighton, the nature of which obliges us to give consideration to the subject before publication.

DISPENSARIES, &c, IN IRELAND.—A Parliamentary paper published on the motion of Sir William Somerville, the Secretary of State for Ireland, shows that the number of Dispensaries, Fever Hospitals, and Infirmaries for which county presentments were made in Ireland in the year 1848, amounted to 773 (against 813 in 1847); the amount of presentments was 83,508*l*., and the amount of subscriptions 33,393*l*., making a sum total of 116,902*l*. The total amount of the sums subscribed and granted for Fever Hospitals in Ireland at the presenting sessions preparatory to the spring assizes of 1849 was 7,885. The number of Fever Hospitals supported by the Poor rates in 1848 amounted to 233 under the temporary Fever Act, the cost of which was 81,448*l*.; and to 80 not under that Act, the cost of which was 21,789*l*.

MAGNETIZED BRASS.—The Rev. T. Rankin stated, at the last meeting of the British Association, that he had found the northern half of a brazen meridian of a celestial globe to be so strongly magnetic, as to deflect a small needle placed near it so much as eight points from its true direction, while the southern part of it seemed to be totally free from magnetism.

REPORT ON THE NATURE AND IMPORT OF CERTAIN MICROSCOPIC BODIES FOUND IN THE INTESTINAL DISCHARGES OF CHOLERA.

PRESENTED TO THE CHOLERA COMMITTEE OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON, BY THEIR SUB-COMMITTEE, ON OCTOBER 17, 1849.

Royal College of Physicians, Pall-mall East, October 27, 1849.

Sir,—The following report was, in substance, laid before the Cholera Committee on the 17th instant; and we were then authorized to send copies of it to the members of the College. The epidemic was already rapidly declining, and it seemed desirable to make known the results of our inquiry before the opportunity of verifying them should be lost.

Dr. Jenner's observations, and, with a single exception, Mr. Marshall's, were included in the original draught read to the Committee. On the same day Mr. Busk communicated to the Microscopical Society his observations on the identity of some forms of the "Cholera bodies" with a species of uredo, the contents of bran-cells, and starch-grains, respectively. These have been imbodied in the Report, together with the result of Mr. Marshall's examination of bran-cells (made subsequently, but independently of Mr. Busk's), and the fact, that the smallest "Cholera bodies" are derived from chalk,—a result to which we were led by the remarks of Dr. Griffith on their physical and chemical characters.

We have the honour to be, Sir,
Your obedient humble servants,
William Baly,
William W. Gull.

We propose, in this Report, to lay before the Committee the results of some experimental inquiries on a subject which, within the last few weeks, has engaged much of the attention of the Profession. We allude to the discovery, by Mr. Brittan and Mr. Swayne, of Bristol, of peculiar bodies in the "rice water" dejections of Cholera patients; and to the statement that similar bodies have been found by Mr. Brittan in the atmosphere, and, subsequently, by Dr. W. Budd, in the drinking-water of infected localities.

These observations, on account of their important bearing, if true, on the Pathology of Cholera, seemed to us to demand a searching examination. We have, accordingly, given much time and attention to the subject. Having, in the first place, satisfied ourselves of the distinctive characters of the bodies found in the rice-water dejections, we next sought to verify the observations of Mr. Brittan and Dr. Budd with reference to their presence in the air and drinking-water of places infected with cholera. It was necessary that this part of the inquiry should not be delayed, for the epidemic had already reached its turning point, and it would, before long, have been difficult to obtain favourable opportunities for experiments of a satisfactory character.

Our inquiries were afterwards directed to the nature and properties of the newly-discovered corpuscles, and to the question of their occurrence in other diseases. In this investigation, we soon perceived that objects totally different had been regarded as identical; but we had arrived at no positive conclusion respecting those which seemed most characteristic of the cholera evacuations, when we received two important communications on the subject from Mr. Marshall and Dr. Jenner. The letters of these gentlemen are appended to this Report; but the results obtained by them are imbodied in it.

Our observations on the air and drinking-water of infected localities, twenty-four in number, gave uniformly negative results. With regard to the value of our experiments, taken separately, it will, we think, appear that many are liable to no objection. Some of those which relate to the drinking-water of infected places, are certainly wanting in the conditions which would make them convincing. But when it is considered that Dr. Budd believes he has detected the objects sought for "in great numbers," in such large bodies of water as the Float, at Bristol, and the Surrey canal, and that he represents them as being deposited in the sediment of the water, we shall not be thought unreasonable in having expected that they might be discovered in the cisterns of houses and public institutions in which cholera had prevailed severely, although it had ceased there for some days or weeks.

Nevertheless, a much larger amount of evidence would have been required to disprove the statements to which our observations refer, had those statements been unassailable from other points. But the facts to be detailed in the subsequent part of this Report, will show that the bodies found in the rice-water dejections have no peculiar relation to cholera; and, that if they should occasionally be present in the atmosphere, or impure water, this will not happen exclusively, or even especially, in districts infected with the epidemic.

We shall now submit the particulars of all the observations to the Committee, describing, first, those on the air.

MICROSCOPIC OBSERVATIONS ON WATER CONDENSED FROM THE ATMOSPHERE OF INFECTED LOCALITIES.

Two methods were employed for condensing the aqueous vapour. One was, to suspend in the air to be examined a glass funnel, nearly filled with a freezing mixture, its lower opening having previously been closed by a cork and covered with sealing-wax. The moisture condensed on the outside of the funnel, trickled into a small phial placed beneath. The second method was, to force air slowly, by means of bellows, through a bent glass tube immersed in ice and salt; when the moisture was deposited on the interior of the tube, and collected in a bulb at its lower part. In either way from half a drachm to a drachm of water was readily obtained.

Obs. 1.—In Millbank prison, from the 6th June to the 16th September, there occurred eighty four cases of cholera. The last patient began to suffer from diarrhœa on the 16th September, and died on the 25th. On the 19th, when he lay in a state of collapse, about a drachm of water was condensed from the air of a lobby which separated his small apartment from a water closet, in which his evacuations were emptied. The water thus obtained was submitted to microscopic examination the same evening.

Obs. 2 *and* 3.—On the same day (the 19th September), we accompanied Mr. Bayfield, one of the surgeons of the Union of St. Olave's, Southwark, to two localities in his district, in which cholera had been most prevalent, namely, English Ground, Bull Court, Tooley-street, and Gimber's Rents, Snow's Fields. In a ground-floor room of a house in the former court, a woman and child had died of cholera within a few days; and the husband, at the time of our visit, was in bed, ill with the disease. Nearly a drachm of water was obtained from the noisome atmosphere of this room.

In Gimber's Rents the drainage and the ventilation were as bad as possible. In several places we saw the openings of drains covered with matting, to prevent the escape of effluvia. We collected about a drachm of water from a house where a woman lay ill of cholera; her husband having only recently died of the epidemic. The water procured in these two experiments, was examined the same evening, and the examination of it repeated on several subsequent days.

From Gimber's Rents we brought away a piece of bread which had been long in the house, and which had not been cut for a week; a piece of butter, the surface of which was covered with dust; and a jug, which we found filled with drinking water. The examination of this water will be referred to in our second series of experiments. On the bread and the butter, no bodies like those observed in the rice-water evacuations could be found.

Obs. 4 *and* 5.—On the 22nd September, water was condensed from the atmosphere in two houses situated in St. Erman's Hill, near the Broadway, Westminster. Mr. Painter, Surgeon of St. Margaret's parish, to whom we had explained our object, conducted us to this locality, as, at that time, the chief focus of the disease. In one house (No. 21) a child lay dead, having been attacked with cholera the preceding evening. Two other cases had recently occurred in the same house. At No. 12 a child was ill of cholera; and a second had been removed, in the morning of the same day, to the Cholera Hospital, where it died. Mr. Brittan and Mr. Newport took part in the microscopic examination of the water condensed from the air in these houses, about an hour after it was collected; but, like ourselves, were unable to discover any "annular bodies." On the following day, the same water, as well as that procured in the second and third observations, was again examined by Mr. Brittan, and with the same result.

Obs. 6.—On the 6th October, cholera appeared amongst the patients in the insane ward of the Birmingham workhouse; many were attacked. On the 9th October, at our request, Dr. Fletcher, of Birmingham, kindly obtained for us some water condensed from the atmosphere of this ward, and likewise from that of one above it, when diarrhœa was prevalent. These specimens of water reached us, and were examined by us on the 11th October.

Obs. 7.—From the beginning of the month of October, cases of cholera had been numerous and fatal in the workhouse of the Walsall Union; partly imported, but partly occurring in inmates of the workhouse. When the epidemic was at its height, we obtained, through the kindness of Dr. F. Burton, of Walsall, about a drachm of water from the air of the room in which the greater number of the cases occurred. This specimen of water was condensed from the air on the 7th, and was examined by us on the 8th October.

The water condensed from the air in the several localities, and under the circumstances we have described, was, in each case, examined by us more than once. But the search for "annular" bodies, such as those found in the cholera dejections, failed, as we have already intimated. Neither cells, nor rings, nor anything bearing any resemblance to them could, in most cases, be discovered. We saw merely portions of gelatiniform matter containing bright points—sometimes finely granular, brownish masses, perhaps derived from smoke—and occasionally colourless, transparent particles, of a crystalline appearance, which may have been portions of siliceous dust. After the water had been kept some time, chains of delicate oval vesicles, like those of the torula of yeast, but much smaller, appeared in it. These were absent at first, and could not be mistaken for the cholera discs. Equally unlike those discs, were the three or four separate oval cells, which, in two instances, were seen in the water when first examined. They had a clear, single outline, and were not flattened.

MICROSCOPIC OBSERVATIONS ON THE DRINKING-WATER OF INFECTED PLACES.

Obs. 8.—On the 26th September, Dr. Snow kindly furnished us with a specimen of water from Albion-terrace, Wandsworth, a locality in which cholera had been very fatal between the 28th July and the 13th August. This water, which was very foul, had been taken from a tank at Albion-terrace on the 16th or 17th of August; but, as it had been kept so long before it was submitted to microscopic examination, it may be objected that, had "cholera fungi" originally been present, they might have become decomposed or otherwise destroyed.

Obs. 9.—A second specimen of water, sent to us at the same time by Dr. Snow, was obtained from a house in Gresse-street, Rathbone-place, in which five persons had recently died of cholera. The last case of the disease here occurred two days before the water was obtained from the cistern, and twenty-four days before it was examined by us with the microscope.

Obs. 10.—From the 31st August to the 7th September, four fatal cases of cholera occurred amongst the female prisoners in two wards of the Milbank Prison. The part of the building where these wards were situated was forthwith vacated. On the 19th September, a portion of water with sediment was taken from the cistern which supplied

those wards, the contents of this cistern having remained undisturbed since the removal of the prisoners to another part of the building. At the same time specimens of water were taken from the cistern of the female infirmary, where two fatal cases of cholera had occurred simultaneously with those above referred to, and also from the tank which supplies the whole prison. These three specimens of water were submitted to the microscope the next day.

Obs. 11.—The drinking-water taken on the 19th September from the house in Gimber's-rents, Borough, (see *Obs.* 3,) deposited a sediment which was carefully examined. The description of the locality has been already given.

Obs. 12.—On the 27th September we visited Crosby court, Bermondsey, an open space containing seven houses. Four cases of cholera (two fatal) had recently occurred in one of these houses, the others having escaped. The house in which cholera had been fatal was closed. But we found that the water used by the inhabitants of the court came from two pumps; one supplied from the Thames water, the other raising well-water, which was hard and ferruginous. On a strict inquiry it appeared that the Thames water was used for drinking in every house except the one in which cholera had appeared; in that house only the well-water was used. We brought away water from both pumps, and examined the deposits, which were abundant, on the following day.

Obs. 13.—We next went to Jacob's Island, Bermondsey, a most crowded and wretched part of the district, in which cholera had been very severe. It is a portion of low ground bordering the river, and surrounded by a shallow tidal ditch, which receives the contents of the privies on either bank. The water for drinking and other purposes, is taken for the most part from this ditch. We procured some water from the ditch itself, and also from two pumps supplied from it, situated in Gutteridge's-court, where deaths had occurred.

Obs. 14.—On the same day we also went to Hanover-street, Rotherhithe, a low and crowed cul-de sac. A woman lay dead of cholera in one of the houses; and other deaths had occurred. The water used, of which we procured a specimen, was derived from the Thames, through a pump which became dry at every ebb. Behind the houses, on the east side, was an open ditch, receiving the refuse from them and conveying it into the Thames, at a point close to the opening of the pipe which supplied the pump in the street.

Obs. 15.—In a house in Swan-lane, Rotherhithe, close to the Millpond, a man lay dead of cholera. The disease had been fatal in two adjacent houses. The woman, whose husband had just died, told us that she and most of the inhabitants took their water for drinking from the Millpond, which is a tidal ditch, serving as a sewer to the houses on its banks. We filled a bottle with water from this source.

Obs. 16.—Dr. Burton, of Walsall, forwarded to us, on the 7th October, three specimens of water from the workhouse, cholera prevailing at the time amongst the inmates. (See *Obs.* 7.) The first was from an open cistern fed by land drains, the second from a moat, the third from cisterns in the workhouse. The last water, which is that chiefly drunk by the paupers in the workhouse, is derived from the moat, but is filtered through charcoal and gravel. The deposits of all were carefully and repeatedly examined.

Obs. 17.—To Dr. Fletcher, of Birmingham, we are indebted for five specimens of the water which supplies the workhouse, forwarded to us at the time cholera prevailed in the insane ward of the establishment. (See *Obs.* 6.) The specimens included:—1. Clear water from the reservoir which is supplied from the river. 2. Sediment from the reservoir. 3. Clear water from the cistern of the workhouse. 4. Sediment from the bottom of the cistern. 5. Sediment from the side of the cistern. These specimens were examined on the 11th inst., and the examination of them has been most carefully repeated.

Obs. 18, 19, 20, 21, and 22,—were all made on water obtained for us by Mr. Hunt, one of the assistant-surgeons at the Westminster Cholera Hospital, from several parts of the district called Palmer's Village, which we have ourselves inspected. The names of the places are Goodman's Green, where the water used for all purposes is contained in a filthy open trough; Perrin's-place; a house (No. 3) in Perrin's-court, in which five cases of cholera (two fatal) had occurred; a house (No. 2) in Providence-row, where also there had been five cases (three fatal); and the Dispensary-Palmer's Village, at which two surgeons successively had been attacked with cholera, one fatally. Cholera had prevailed in all these localities, but not within a fortnight of the time when the water was taken for examination.

Obs. 23.—In a small house (No. 9) in Dorset-place, Vauxhall-road, three cases of cholera had occurred in succession; the first on the 5th instant, the second (fatal) on the 8th, and the third (also fatal) on the 12th. These cases were attended by Mr. Clark, of St. James's-terrace. On the 8th instant, just after the second case occurred, two specimens of water were, at our request, taken from the butt supplying the house,—one from the surface of the water, the other from the tap after the sediment had been stirred up; and both have been several times examined with the aid of the microscope.

Obs. 24.—On the 5th October a man labouring under cholera was admitted into University College Hospital. He had resided for some months at No. 4, Howland-street. A week previous to his attack he had changed his room to another in the same house, where a woman had died of cholera seven weeks before. Water was taken from the kettle, and from a stone water jug in his room, as well as from a cistern which supplied the house. As he had dined in another house on the day previous to his attack, water was procured thence also. The deposits of these several specimens were likewise submitted to careful microscopic examination.

The uniform result of these experiments, as of the former series, was negative. No bodies were found which could be regarded as identical with the more characteristic of those discovered, by Messrs. Brittan and Swayne, in the rice-water dejections of cholera. The objects met with were far more numerous than those seen in the moisture condensed from atmosphere. The sediment, when viewed with the 1-8th-inch object glass of Ross, or 1-16th-inch object glass of Powell and Lealand, presented, besides amorphous matter, an almost endless variety of organic forms, both animal and vegetable. Amongst these were many round or oval cells, of various dimensions, and some separate rings of minute size, colourless, and pellucid. The cells had generally very delicate walls and a clear cavity, were never flattened, and often contained a multitude of distinct granules, which, in some instances, presented the molecular motion. Like the rings, these cells were obviously different in their nature from the thick edged discs, which the descriptions and drawings of Messrs. Brittan and Swayne and Dr. Budd had led us to regard as the characteristic corpuscles of the cholera evacuations.

The negative results of our search in the atmosphere of infected places, for objects identical with those just referred to, are confirmed by some observations communicated to us by Mr. Marshall. While cholera was prevalent in St. Giles's, he examined the dirt washed from the broken glass of windows, and from cobwebs taken from houses in that district, in which deaths had occurred from four to ten days previously. With 1-12th inch or 1.8th inch object-glass, he found a vast number of objects, such as particles of silex and soot, hairs, wings, and legs of insects, round and oblong cells of a brownish colour, very dark spherical granular masses, probably of a confervoid nature, and fragments of vegetable tissue, amongst which were pieces of spiral tubes, and entire rings, apparently of woody tissue, of an oval, polygonal, or circular form. But he detected no discs with double outline. A microscopic examination of the objects collected on a moist surface from the atmosphere of sewers, gave Mr. Marshall a similar negative result with regard to those discoid bodies; although he found (besides fine particles of silex and other dust) brown, oval, and round cells, single and in couplets, minute colourless vesicles, either single, double, or in triplets, a single large oval cell, and numerous opaque granular confervoid bodies, of a brownish or blackish green colour.

MICROSCOPIC OBSERVATIONS ON THE BODIES FOUND IN THE CHOLERA DEJECTIONS.

We next proceed to show how various are the bodies which have been confounded together under the terms annular bodies (Mr. Brittan), Cholera cells (Mr. Swayne), and Cholera fungi (Dr. Budd).

On examining the drawings given by the three gentlemen who have called attention to the subject, four principal forms, which can hardly belong to the same objects, may readily be distinguished.

1. *Rings*, which enclose a free area, and which often are broken. These are usually of minute size according to Mr. Brittan and Mr. Swayne, but occasionally large, according to Dr. Budd. (a.)

2. *Globular or oval cells*, chiefly of the middle size, which have a thick wall with numerous small eminences on its surface and contain a granular mass, in some instances separated by a clear space from the wall of the cells. These are distinctly figured only by Mr. Swayne, but are regarded by him as perfectly developed cholera cells.

3. Bodies having apparently the form of *discs, with thick rounded edges*, and centres of indistinct structure. These vary extremely in size, including some of nearly the smallest, as well as many of the largest, of the objects represented by the three observers. They predominate in all the representations given of the corpuscles of the rice-water dejections, and must be taken as the type of the bodies discovered by Messrs. Brittan and Swayne.

4. Large *broken cells*, having apparently homogeneous membranous walls, and containing small, well-defined, oval bodies; figured by Dr. Budd as cholera fungi undergoing decay, but differing in character from all the other objects represented.

A mere inspection of these different figures would suggest strong doubts as to their representing different appearances of really identica bodies in different states or stages of development or decay. The more particular description we have now to give of each kind of body, will demonstrate that they are of various and distinct nature.

1. The rings, when closely examined, are seen to be of different kinds; some perfectly continuous in their entire circle; others formed by a curled fibre; some round, some oval, others lozenge-shaped.

Some of these have been traced to their true source by Mr. Marshall, who has found that exactly similar objects may be prepared by the artificial digestion

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(a) [By omitting the references to the many engravings contained in the Report of the Cholera Committee of the College of Physicians, we have been obliged slightly to alter the text. Our readers will not, we think, accuse us of any unwillingness or backwardness in laying before them illustrative engravings, whenever, by doing so, we can enhance the value of the various communications that appear in our Journal. In the present instance we would have gladly repeated the figures to which we allude; but the period of the week at which we received the Report, and our anxiety not to postpone the publication of so valuable a document, which, at present, is circulated only among the Fellows and Licentiates of the College, have rendered it impossible to carry our wishes into effect. In the present case, however, we do not so much regret our inability, as, under different circumstances, we should have done. In the first place, we have the satisfaction to announce, that the Cholera Committee have resolved to *publish* their Report; and in the second, the doctrine of the "Cholera Fungi" having been proved to be untenable, it will soon pass away, be forgotten, and heard of no more, except as a warning to men not hastily to arrive at conclusions, nor to seek the "bubble reputation," without a surer foundation than this upon which to rest their claims.—ED. *Med. Times.*]

of the vegetables used as food—such as cabbages, potatoes, and onions, the withered style of wheat grain, and portions of cane in sugar; the spiral and annular tissues of which break down into rings of different sizes, or coils resembling rings.

Intermediate between these and the third class of bodies are minute, oval or round, colourless cor puscles, which have an annular appearance; but, on close inspection, are seen to have their area filled up with a transparent substance, presenting sometimes perforations. In some specimens of the rice-water fluid, oval bodies, in part having their middle filled up as here described, and, in part, mere rings, exist in extraordinary abundance. The rings of these bodies have been observed, by Mr. Busk and Dr. Griffiths, to be divided, by cross-lines, into segments, which Mr. Busk thinks are bead-shaped—an appearance which had occasionally been noticed by ourselves as well as by Mr. Marshall. They are calcareous structures, originally derived from chalk, in which they abound; and they have been introduced into the contents of the intestines with the medicines (chalk-mixture, aromatic confection, &c.) which the patients have taken. (a) These minute bodies from the chalk are, of course, not found in all cases; and we think it not unlikely that, in their absence, the separated nuclei of animal and vegetable structures, as well as the vegetable rings above described, may sometimes have been mistaken for fungi.

2.—The globular bodies have been clearly identified by Mr. Marshall with the spores of different kinds of uredo, the rust, smut, and bunt of grain; some species of which may be found, not only about the withered style on grains of wheat, but also in almost every specimen of corn and bread.

Mr. Busk has made the same observation, and identifies them with the uredo segetum, or bunt.

3.—Discs, with thick, elevated, and somewhat irregularly-curved margins; the central area flattened, and obscurely granular. They have generally a yellowish, or pale brown tint, which varies in depth with the colour of the fluid containing them. These are the most peculiar of the bodies found in Cholera, and differ from the rest in being more or less soluble in ether. Mr. Marshall, who first informed us of this fact, found that the smaller discs undergo nearly complete solution, leaving a cavity in the dried mucus, whilst the larger ones leave a fine granular film. They are apt to break across, and the thick margin to curl inwards. They are evidently not cells, nor have they any organized structure which could give them any claim to be regarded as living organisms. On the other hand, their solubility in ether shows that they consist, in great part, of some substance of the class to which the fats, resins, and saponaceous matters belong. This observation led Mr. Marshall to examine different fatty substances, and at length to find that curled concretions, not unlike the discs found in cholera, could be obtained by compressing a piece of rich cheese (with or without the addition of ether) between two plates of glass. We are not yet able to account for the origin of these peculiar discs.

(a) It is right to state how we arrived at the knowledge of these facts. Dr. Griffith had pointed out to us that the bodies in question are heavy, polarize light, and are soluble in dilute nitric acid. He suspected that they were oxalate or phosphate of lime. Mr. Marshall subsequently showed us that acetic acid also dissolves them readily, and that sulphuric acid acts on them, producing needles of sulphate of lime. Having ourselves found the same bodies in the evacuations of two patients suffering from typhoid fever, we were examining them in company with Dr. Griffith and Mr. Marshall, when the demonstration of their calcareous nature reminded us of the fact, that these patients had been taking medicine containing chalk, and, at the same time, brought to our recollection the remark made to one of us by Mr. Topping, that Mr. Brittan's "annular bodies" were to be found in chalk-mixture. Accordingly, we examined a portion of medicine containing aromatic confection, and, afterwards, a piece of common chalk, and, in both, found the bodies described above, though not the larger discs which are also found in the rice-water fluid. Ehrenberg figures these calcareous bodies, and describes them as being "crystalloids." Abh. d. Akad. d. Wiss. z. Berl. 1838, p. 68.

Mr. Busk regards the smaller ones as altered starch grains. It is, at all events, certain that they are not fungi; and, as we shall afterwards see, that they are not peculiar to cholera.

Mr. Busk thinks that the larger discs are the altered contents of bran-cells. Mr. Marshall, too, has, independently, made the observation, that certain yellowish bodies, sometimes seen, which have a thinner and narrower border than the fatty discs, and are merely rendered pellucid by ether, may, perhaps, be derived from bran. The granular masses contained in bran cells have, however, when undigested, no distinct border.

4. Under the fourth class of bodies, we refer to those represented by Dr. Budd as the cholera fungi undergoing decay and disintegration. They are evidently of a different nature from those figured by him as characteristic of the fresh cholera dejections. The mode of disintegration of the two classes of bodies is quite distinct: the so-called cholera bodies, after resisting the action of water for some time, break up into irregular granular masses; whilst the decomposing bodies depicted by Dr. Budd, seem to be, in part, homogeneous, membranous cells dehiscing; and are, perhaps, starch cells. The rings are, most probably, parts of disintegrated vegetable tissue.

It is shown by Mr. Marshall, and had before been noticed by Boehm and others, that cells like fungi, or their spores, are occasionally found in the excretions in cholera. These, however, have a more delicate structure than any of the bodies described as characteristic of cholera, and are totally different from them. It is well known that various vegetable forms are apt to become developed in organic fluids generally.

From a review of the foregoing facts, it is obvious that various bodies found in cholera dejections have been confounded, and described as identical. It is also shown, that many are traceable to an extraneous source, and that even the discs placed in our third division, are not fungi. The statement, that the bodies found in the cholera dejections present an endogenous multiplication, has, in all probability, arisen from confounding them with the uredo, or from mistaking the appearances produced by the small bodies seen through, or upon, the larger ones, or entangled in their substance.

We are unable to identify the rings obtained from the air, and figured by Mr. Brittan, with any of the bodies included by him under the term "annular bodies." Our own experiments have satisfied us that these bodies do not commonly exist in the atmosphere of infected places, but the observations of Mr. Marshall, on the dirt collected from windows and cobwebs, show the great variety of matters which must be wafted about in the air, in the form of dust, and which might, in different instances, be caught with the condensed moisture.

The bodies represented by Dr. Budd, as being found in impure drinking water, have the form of discs with thick edges. We have ourselves never seen such bodies in water. But, if it should be established that the contents of bran cells sometimes assume that form, the occasional presence, in water, of bodies capable of being confounded with the discs derived from the discharges of cholera, will not appear remarkable.

Had the bodies described by Messrs. Brittan and Swayne been proved by the foregoing investigations to be of fungoid nature, yet the facts we have now to add would have shown that they have no necessary connexion with cholera. In the first place, they seem not to be constantly present in the discharges. It is, indeed, remarkable that, in those dejections which, from the absence of colour, have usually been regarded as the most characteristic of the disease, they are frequently absent. We have failed to find them in several instances. In one, a portion of every evacuation was set apart, and examined several times by each of us, and yet in no portion would we detect them.

A still more important fact, which, from the explanations already given might be anticipated, is, that all the more remarkable of the bodies which have been thought peculiar to cholera, exist in the intestinal evacuations of persons affected with other diseases. Dr. Jenner first demonstrated to us their presence, in great abundance, in the dejections of a patient affected with typhoid fever. We have since verified his observation in five other cases of this disease. We have also satisfied ourselves of the existence of some of the forms in dejections apparently healthy, from two patients in Guy's Hospital, one suffering from bronchitis, the other from early cirrhosis of the liver; and Mr. Marshall has detected small annular bodies "in the mucus covering the healthy excrement" of several herbivorous animals. It is obvious, that bodies derived from such various sources will not commonly be found all present together. This, indeed, is not the case in cholera. The minute bodies, especially, which belong to chalk will, of course, very rarely be met with, except that substance has been taken as medicine.

We shall now briefly re-state the principal results we have arrived at, and submit the conclusion which seems to us justified by them.

1. Bodies presenting the characteristic forms of the so-called Cholera fungi are not to be detected in the air, and, as far as our experiments have gone, not in the drinking water of infected places.

2. It is established that, under the term "annular bodies," "Cholera cells," or "Cholera fungi," there have been confounded many objects of various, and totally distinct, natures.

3. A large number of these have been traced to substances taken as food or medicine.

4. The origin of others is still doubtful, but these are clearly not fungi.

5. All the more remarkable forms are to be detected in the intestinal evacuations of persons labouring under diseases totally different in their nature from cholera.

Lastly, we draw from these premises the general conclusion, that the bodies found and described by Messrs. Brittan and Swayne are not the cause of cholera, and have no exclusive connexion with that disease;—in other words, that the whole theory of the disease which has recently been propounded, is erroneous as far as it is based on the existence of the bodies in question.

(Signed)

William Baly, M.D., } Cholera
William W. Gull, M.D., } Sub-Committee.

LETTER FROM DR W. JENNER, ASSISTANT-PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL.

"Albany street, October 17, 1849.

"My dear Sir,—On reading Messrs. Brittan and Swayne's papers, it appeared to me that the bodies they described as cholera fungi, bore a very close resemblance to objects I had long since observed in examining microscopically dejections passed by patients labouring under typhoid fever. That they were identical, whether of vegetable origin or otherwise, seemed to me the more probable, because of a certain resemblance in the chemical constitution of the evacuations in the two diseases.

"My colleague, Dr. Parkes, found, when analyzing, at the early part of the year, several dejections passed by patients suffering respectively from typhoid and typhus fever, that while the latter were acid and contained no albumen, the former were alkaline and albuminous. Understanding that the microscopic vegetations which flourished in alkaline fluids are not to be found in acids, it struck me that such peculiarity in the nidus, suited for different vegetable growths, might account for Drs. Brittan and Swayne having failed to detect the "cholera fungi," (if these bodies are vegetable,) in the stools passed by patients affected with typhus fever or bilious diarrhœa. Dr. O'Shaughnessy stated, in 1832, that he had tested the stools in 100 cases of bilious diarrhœa, and found them all acid, and without a single chemical character of cholera stools. Simon also says, that in bilious diarrhœa they are acid. On examining microscopically four alkaline stools, passed at different stages of typhoid fever, I found in them bodies which appeared to me identical with those described and figured by the members of the Bristol Committee.

"The bodies I have observed consist of the ring

with double outline, and others corresponding to the more developed forms of 'cholera fungi,' figured by Mr. Swayne. I have seen none of the most highly developed forms. Floating through the liquid part of one dejection were numerous minute jointed threads. I may mention that the former bodies were found to exist most abundantly in the *pale* yellowish particles floating through the typhoid stools, some of which appeared almost entirely composed of them.

"I am, my dear Sir,
"Yours faithfully,
"Dr. Baly." "W. Jenner.

LETTER FROM JOHN MARSHALL, ESQ., ASSISTANT-SURGEON TO UNIVERSITY COLLEGE HOSPITAL.

"Mornington-crescent-place,
23rd October, 1849.

"Gentlemen,—I beg to submit to your consideration the following results of an examination of the minute bodies which have been recently pointed out as existing in the evacuations of cholera patients.

"1. In the *dejections* or in the contents of the intestines of cholera patients after death, I have, in the majority of instances, recognised all the forms of microscopic bodies described as being found therein, and represented by Messrs. Brittan and Swayne, and by Dr. W. Budd. These I have examined under high magnifying powers, (using a one-eighth or a one-twelfth of an inch object-glass,) and have submitted them to various re-agents. In order to obtain objects for comparison with these bodies, I have digested, with pepsin prepared from the sheep's stomach, the common articles of vegetable diet. Not one of the re-agents which I have employed appears to have acted uniformly upon all the cholera bodies. Neither alcohol nor ether, when applied to the moist mucus in which they lie, produce much effect upon any of them; but when the mucous is spread out upon glass, and allowed to dry spontaneously, either of these agents, especially when pure, almost entirely dissolves the *substance* of a certain number of them.

a. The bodies thus acted on by ether vary in size, from the smallest up to those which are rather *under* the medium dimensions, and are plainly distinguishable from the particles of solid and globules of liquid fat present with them. They have a bright, transparent, yellowish hue, resemble flattened discs in form, are cupped, or irregularly depressed in the centre, and have a more or less distinct double outline. The smaller ones appear homogeneous in substance; and in them, the faintly-marked inner line corresponds pretty accurately with the outer margin; but in the larger kinds, which are granular in the centre, the thickened border between the two lines is irregular in width, or seems as if it were formed by the union of two or more *curled* portions. These bodies are not acted on by iodine or chromic acid; they preserve well in thickish mucus, or in strong saline solutions; but in more watery dejections, in dilute aqueous solutions, or more readily on the addition of water, they slowly disintegrate and break up after the manner of fat. When dissolved by ether, the smaller ones leave behind merely a space or mould in the dry mucus; but in the place of the larger ones, there is certainly an appearance of a thin film, within or upon which, besides some irregular granules, one or two of the smaller annular bodies which resist the action of ether may, though not constantly, be found.

The origin and meaning of these fatty (?) bodies is a subject for further inquiry. They may originate in the secretions of the digestive organs, or be produced from fat taken as food; or they may have some relation to the dextrine into which the starch grains are converted in the alimentary canal; for fat is known to appear, under certain circumstances, during the decomposition of saccharine solutions. That fatty substances may crystallize in somewhat similar forms to the bodies just described, may be shown by digesting sour cream or cheese in alkaline solution or in ether; or, as I afterwards found, much more simply by compressing a small piece of rich cheese, moistened with ether, between two plates of glass, when a multitude of minute *curled* concretions of fat are seen under a high magnifying power, similar to, though of course not identical with, the class of cholera bodies now under consideration.

"Some of the bodies shown by Dr. Jenner to exist in typhoid dejections are of the same nature.

"A large proportion of the cholera bodies, however, of all sizes, but especially of the smallest kind, resist more or less the action of ether; and these, as well as the empty places or husks of such as are more or less dissolved by that menstruum, may be conveniently displayed and preserved, after the evaporation of the ether, in mastic varnish, covered with thin glass. The larger and smaller bodies not dissolved by the ether, may, I think, be referred to the following heads.

"*b*. Numerous *yellowish* bodies *above* the medium size, having a round or oblong form, a hard outline, an irregular rim or border, and a granular centre, which is either scarcely cupped, flat, or even slightly embossed. Iodine does not colour them; they decay in water; but, after longer time than those previously described; in ether, they become colourless and transparent, especially in the centre, crack in angular lines, and, in some cases, under slight blows, the rim appears to fall away in pieces and leave a central, well-defined mass. One or more of the small annular bodies are frequently found lying upon them, and occasionally appear to be in them or beneath them; but I have never seen a *groupe* of smaller bodies within a larger one.

"Having found cells of this kind abundant in the case of a patient who had eaten daily of walnuts previous to his attack, I digested artificially and examined portions of that fruit and its skin. Beneath the epidermic layer are found polygonal cells containing a *coloured* granular matter differing from those composing the oily substance of the nut. In the cabbage and onion greenish and yellowish cells are found, also differing in their contents from those amongst which they lie; and, lastly, beneath the outer skin of the potatoe, and that of the grains of wheat and barley, *coloured* cells exist, perfectly distinct in character from those containing the starch granules. In the walnut, wheat, and barley, they are somewhat flattened, and have a fusiform or polygonal, or even a roundish outline. They resolutely resist artificial digestion. By maceration in liquor potassæ, and the subsequent addition of water, (under the microscope,) they swell, sometimes separate from each other, and become more or less rounded in outline. Those obtained in this way, from the softened cotyledon of wheat, are coloured *yellow* by the alkali, and display a pale, central spot, which, by prolonged maceration, becomes larger, and pushes towards the margin of the cells, their granular contents; on bursting them, a thick, limpid, oily fluid escapes. Ether causes them to shrink. In size, colour, and form, they very much correspond with the larger cholera bodies just now described. A close imitation of the changes incident to digestion might establish their identity. Certainly flat, yellowish, polygonal or fusiform bodies, resembling these cells unaltered, do exist in cholera and typhoid evacuations.

"*c*. Another set of bodies, not nearly so numerous as the last, but also above the medium size, and having a rounded form, are characterized by their deep yellowish, or brownish-red colour, their decidedly spherical shape, and their hard and finely-indented outline, within which one or two other concentric and similarly indented lines may be traced. The surface of some is faintly marked with a polygonal tesselation; in others, which are usually larger, this is no longer recognizable. Water distends them; iodine gives them colour; and ether or alcohol greater definition. These are the spore cases of different species of uredo.

"In artificially-digested white and brown bread of the best quality I first found similar bodies; and, subsequently, in different samples of fine flour. Four to six occur in as much flour as will lightly cover a sixpence; and, in a cubic inch of bread consumed at my own table, as many as 150 must exist. Finally, in two separate specimens of wheat of this year's growth I have found them entangled amongst the fine hairs surrounding the withered style and pistils,—in numbers, from one to eight upon a single grain, though occasionally none could be detected. Usually, I have met with the orange-yellow spore cases of Uredo rubigo or rust; more rarely, and only in bread, with the larger and darker sporidia of Uredo fœtida or smut-balls, or of Uredo segetum or bunt.

"Those found in cholera dejections appear to be often partly digested, being soft, pale, flattened out, and even emptied of their contents. In one typhoid evacuation they existed in great numbers, and were only very slightly altered in appearance.

"By far the most numerous of the so-called cholera bodies are the small annular bodies, both oval and circular. Their great abundance and variety of size, are well seen in specimens treated with ether, and put up in mastic varnish.

"*d*. Some of these, whether oval or circular, which are not rings, but have an annular appearance, owing to their double outline, (fig. 10,) have, as was pointed out to me by Dr. Baly, all the characters of epithelium-nuclei from the alimentary canal, altered or simply set free, by the digestion of their containing cells.

"By artificial digestion I have succeeded in imitating the appearances of many, but not all of these bodies, with their bright surrounding border, and their central substance and nucleoli.

"*e*. Another set of the small annular bodies, *not so numerous* as those last described, consists of *true rings*, as may be determined by the fact of the inner bounding line being as dark as the outer one. In prepared specimens they are recognised by their oval and compressed form, homogeneous glassy character, and their dark outline. Sometimes the ring appears thicker, and at others, as if broken at some point. Frequently mere fragments are met with.

"Exactly similar objects may be prepared by the artificial digestion of the vegetables used as food. The spiral tubes and annular tissue of plants, break down sometimes into simple entire rings, sometimes into portions of fibre, which coil up and show their overlapping ends only to a practised eye. From the cabbage and onion, from the cooked potato, where these tubes form part of every bud or eye, even from the withered style of the wheat grain, and from fragments of the cane in coarse sugars, spiral tissue, of various diameters, is met with, some of the tubes being not more than 1-4000th of an inch in diameter. The inner rims of the stomata of plants, and the margins of flattened cells may also furnish rings of various size and form.

"Furthermore, in the mucus covering the healthy excrement of the goat, rabbit, and guinea pig, I have found similar rings of vegetable tissue.

"*f*. There still remains a series of minute bodies, some oval and others circular, which have an annular appearance, but which, owing to their extreme precision of form and smoothness of outline, are not referrible to either of the three kinds yet described. Some, which are oval, appear like minute clear cells, or like the remains of such cells ruptured. Very small circular bodies have the same characters. Probably these are really the spores of fungi, or are cellular fungi introduced with the food or drink, and only imperfectly digested. The cells of the yeast plant are to be found in moistened bread. As we have already seen, smut balls are actually introduced into the digestive organs with bread; and, in examining the hairy tufts on grains of wheat, I found the spores of *two* other fungi,—one, rare, the other in larger numbers. On the skin of the walnut I found no less than *four* different fungi, with their sporules; and others in digested cabbage. Minute vegetable cells also exist in water. Where the digestive process is nearly arrested, as in cholera, the remnants of these fine cellular bodies might appear in the dejections.

"*g*. Certain circular rings, with a bead-like appearance, also seem to me to be peculiar.

"*h*. Lastly, I have occasionally seen in the rice-water fluid and its sediment, colourless, transparent vesicles, varying from 1-3000th to 1-1000th of an inch in diameter, and presenting, when focused

at their middle, a brilliant, but very fine, double outline. They are destroyed by desiccation, and, after a few days, disappear from the fluid which at first contains them. They are distinct from any of the bodies previously noticed, but resemble some which I have seen in the fresh urine passed after the stage of collapse.

"In conclusion, I may state that, whatever be the nature and meaning of the bodies described in Section *f*, which are probably introduced from without; and of those in Section *h*, which perhaps are formed as the accompaniments of a particular state of the fluid in which they are contained, I can trace no specific relations between these and any other series of the cholera bodies; nor does there at present appear to me to be satisfactory evidence of the existence of any living organism, animal or fungoid, actively developing itself, and multiplying in the interior of the alimentary canal, in cases of malignant cholera.

"The foregoing observations apply entirely to the objects seen in the intestinal discharges. My examination of the matters vomited, in four instances, has led to merely negative results.

"In five cases, in which both serum and clot of the blood were examined, no annular bodies of any kind were found.

"I have the honour to be your obedient servant,

"JOHN MARSHALL.

"To the Cholera Committee of the College of Physicians.

"Postscript.—In a case of typhoid fever and pneumonia, I find in the bile contained in the full bladder, three days after death, small, roundish, fatty masses, having a bright rim and double outline; the largest having, moreover, a curled margin. The observation affords additional evidence of the proneness of fat to assume such form, and suggests the possibility of the bile being concerned in the formation of the 'bodies' described in section *a* of this letter. "I. M.—October 29th."

ORIGINAL CONTRIBUTIONS.

STATISTICS OF THE CHOLERA IN THE METROPOLIS FOR 1848, 1849.

By Mr. BENJAMIN SMITH.

If we were asked to assign reasons (humanly) why the cholera has committed such ravages among us in the year 1849, we might give as one of those reasons the fact, that in 1832, when the same disease prevailed to a great extent, the phenomena attending it were left in a great measure unstudied, and to a greater extent unrecorded,—so much so, that in the latter case, details respecting the course and peculiar features of the disease are barely to be got at, and, when obtained, they are so imperfect as to be of little use in comparing that outbreak with the one which has so recently visited us. The present registration system, not having been established in the former period, we are destitute of the advantage of that most elaborate portion of statistics, and Medical men themselves, not having been acknowledged as hygienists, only as curers,—the predisposing causes of cholera, which might have been elicited in 1832, devolved no special duties on those who had made the constitution and frame of man their peculiar study, but left the public health to be dealt with on the arena of polemics, by a Board of experimentalists without either knowledge or experience, by parish-officers in vestry assembled, and by landlords who are never "too fast" in sanitary improvements. Thus was it with the epidemic of 1832. Shall it be so with that of 1849? With a mass of statistics most carefully provided at the public expense, shall they be deposited on the shelves of all the Blue-books, only to be cleared of their dust by some single-handed philanthropist, who, because he *is* single-handed, shall be treated as a schemer; or, shall the whole body of the Medical Profession handle and deal with them as a primary duty connected with their high calling, and, by the manner in which they discharge that duty, stamp their mission as at once that of the patriot and philanthropist, and for which the ancient myth had discovered no imbodiment.

Bare as are the details for 1832, they yet present so many points of resemblance in the progress of the disease then, and in the present year, that we cannot forbear saying (what should not be lightly said) that, humanly, hundreds, if not thousands of lives have been sacrificed to the grossest neglect, only wanting the ingredient of "malice-aforethought" to constitute it murder. Why, if certain conditions were known in 1832 to favour the dissemination of cholera, and were removable by human means,—why were these same conditions left untouched, not to say made worse, for seventeen years, then again to aid in depopulating our cities, and causing the bosom of society again to heave with the throes of anguish? Why? and I answer, greatly because sanitary measures were left to men whose professed business it was to mind *other* things, and whose ignorance incapacitated them for *this* one thing,—while they upon whom it naturally devolved, either did not recognize the full scope of their mission, or were ousted of their proper jurisdiction to make way for class interests, the public health notwithstanding. Will the Profession, which has just emerged from a trial having no counterpart for nearly 200 years, will they who have been so lately called upon to experience the weakness or the futility of their efforts to stem the torrent, and many of whom have been obliged to retire from the scene with broken health and broken-down spirits, as, one after another, their cases defied all attempts at cure,—will this Profession, so tried, so baffled, sink down in despair because the cholera could not be cured where it might have been prevented, or will it not the rather rise above the depressing influences of a temporary defeat, to fight the good fight of prevention against the enemy of man's progress to three-score years and ten?

If I might mention one argument where so many press their claims, why such a course as that just mentioned should be pursued, it would be this—that in the recent visitation the cholera has taken from us especially, not the young, not the aged, but the very vigour of society. All can rejoice in the freshness and beauty of the opening bud, and still entwine around the old trunk that has long since passed bearing fruit, and neither do we complain that it cumbers the ground; but society can ill afford to lose its trees bearing fruit,—we can ill spare, beyond the common rate of mortality, a large proportion of the most vigorous understandings and most stalwart frames. Yet such has been a marked feature of the epidemic.

For these reasons, and many more, I would invite the Profession to gather up every scintillation of light that is developed with respect to this disease, and not, by neglecting one part of its phenomena, while they attend to that which they conceive belongs more exclusively to medicine, give the opportunity to others (incompetent) to take a part of their calling upon them, and thus deprive the Medical man of the high honour of building up his fellow-being in health and strength, instead of rescuing him from the jaws of death, and then only with a shattered frame. For each one to do well his part, so far as means allow, will at last aggregate a mass of knowledge around which future generations may gather to learn wholesome truths and receive timely warnings; and it may be received by the Father of us all as at least some acknowledgment for spared life, that we make good improvement of all our experiences, and use life that we may be useful to the living. In order to this, I have gathered up such statistics with regard to 1849 as have come to my hands, and which are here detailed; of course premising, that I am indebted to the Registrar-General for the means of arriving at the greater part of the results obtained.

The total number of deaths from cholera in the 54 weeks, from Oct. 1, 1848, to Oct. 13, 1849, amounts to 14,497, or 5,489 more than occurred in 1832, among a population, by the census of 1841, of 1,948,369, or as estimated to the middle of 1849, of 2,206,076; being 1 death by cholera in every 134·4 of inhabitants by the census; or 1 in 152·2 according to the latter estimate. From this number of deaths, it appears that the cholera has taken off, in the above period, the whole increase of population which accrued in 1848, and somewhat more, that increase having been 13,104, and is within 4,000 of the number dying from zymotic diseases (18,117) in that year.

We shall now consider this number of deaths as it relates to Sex, Age, Trade or Position, Duration of Attack, District or Locality, Meteorological Phenomena, and Season or Period.

I. SEX.

The deaths in this respect are 6,914 males, to 7,583 females, giving a preponderance as it respects the latter of 669, thus reversing the law which generally holds in respect to diseases from all causes; but still further peculiarities as regards sex will appear, in considering

II. AGE AND SEX.

Of the gross number of deaths from cholera, 4,447 die from 0 to 15 years of age; 8,629 from 15 to 65; and 421 from 65 and upwards, including 14 with age not specified, being a deviation from the usual course of zymotic diseases, by which most deaths occur from 0 to 15, and one which has generally been found to hold, as it respects this disease, wherever it has prevailed. Thus, in the *Berlin Cholera Gazette*, we find, that out of 2,000 cases of cholera occurring there, 159 die from 0 to 15; 494 from 15 to 65; and 56 from 65 and upwards, including 35 not specified. A more narrow scrutiny of the Returns, gives the following as to the various ages, relatively to sex, and the population of various ages in Middlesex, to every 10,000:—

Age.	Deaths—Male.	Population.	Deaths—Female.	Population.	Total Deaths.	Population.
0	1,103		934		2,037	
5	703		633		1,336	
10	381	303,430	317	385,025	698	748,455
15	726		650		1,376	
25	990		1,110		2,100	
35	949		1,230		2,179	
45	891		993		1,884	
55	650		834		1,484	
65	384	513,526	598	611,695	982	1,125,221
75	120		252		372	
85	9		26		35	
95	...		...		...	
?	8		6		14	

The population given above is at the periods from 0 to 20, and from 20 and upwards.

Here the chief periods of liability seem to be, *as to age*, for both sexes, at 0, 25, 35, 45, and, as respects females, 55; and the ages of 10, 75, and 85, the least liable; as it respects males, the deaths are above those of females at the ages of 0, 5, 10, and 15, from which latter period, the deaths of females invariably preponderate, with the differences respectively of 120, 281, 102, 184, 214, 132, and 17.

By the deaths at each age, however, *according to population*, the following is the result:—

1 Male dies in 106·6 under 20 years of age
1 " " in 146·8 above 20 " " and upwards.
1 Female " in 124·6 under 20 " "
1 " " in 136·3 above 20 " " and upwards.
1 of Both Sexes " in 115·2 under 20 " "
1 " " in 140·9 above 20 " " and upwards.

So that the liability would hence appear to be as follows:—1st. Males under 20 years of age; 2nd. Both sexes under 20; 3rd. Females under 20; 4th. Females above 20 and upwards; 5th. Both sexes above 20 and upwards; and 6th. Males above 20 and upwards.

III. TRADE OR POSITION.

Of 1000 deaths by cholera, 280 were men, 331 women, 209 boys, and 180 girls. Of the women,

in this number, 116 were wives, 82 widows, and 30 spinsters; and of the others not so classed, 11 were servants, 8 prisoners, 4 dressmakers, 4 laundresses, 3 ladies, 3 paupers, and the other 18 are distributed among 8 occupations. Among the men, the highest numbers to any one class are respectively—41 labourers, 18 mariners, 13 carpenters, 12 shoemakers, 9 tailors, 9 weavers, 7 pensioners, 7 clerks, 6 porters, and 3 gentlemen; leaving 155 deaths to be apportioned to 95 occupations, or 1·6 to each. Of the wives, the highest numbers are among those whose husbands were labourers and shoemakers (31 and 9 respectively); and of the children, 39 are the sons of labourers, and 33 the daughters of such, the highest numbers as it respects children standing in equal ratios to those of the men; from all which it appears that labourers, mariners, carpenters, and shoemakers are the occupations peculiarly marked by the disease, so far as statistics go. But we must look at it in another light, viz., as compared with the relative population of each description. It is as follows:—

Description.	Number of Deaths by Cholera	Number living of each Description in England, in 1841.
	in 1000	
Men	280	3,897,336
Women	331	4,223,780
Boys	209	3,430,181
Girls	180	3,448,857
FEMALES.		
Servants	11	712,493
Prisoners	8	9,865
Dressmakers	4	80,079
Laundresses	4	45,019
Paupers	3	69,810
Ladies	3	303,583
MALES.		
Labourers	41	307,535
Mariners	18	288,630
Carpenters	13	127,804
Shoemakers	12	165,881
Tailors	9	96,112
Weavers	9	58,991
Pensioners	7	21,349
Clerks	7	47,732
Porters	6	23,891
Gentlemen	3	118,412
All Occupations, to October 20	14,538	7,094,186

The general point here indicated is, that occupation has little to do with exposing to the attack of cholera.

IV. DURATION OF ATTACK.

It appears that of all the deaths, 212 take place within one hour, 6651 under 1 day, 2461 in one day, 1045 in 2 days, 306 in 7 days, and 7 in 28 days from the period of attack. As it respects males and females the duration of attack to death stands as follows:—

Period.	Males.	Females.	Total.
0 hour	136	76	212
6 ,,	950	809	1,758
12 ,,	1,575	1,661	3,236
18 ,,	636	809	1,445
Total under 1 day	3,297	3,354	6,651
1 day	1,109	1,352	2,461
2 ,,	486	559	1,045
3 ,,	386	438	824
4 ,,	244	269	513
5 ,,	207	195	402
6 ,,	104	118	222
7 ,,	139	167	306
8 ,,	45	65	110
9 ,,	30	39	69
10 ,,	72	106	178
14 ,,	43	70	113
21 ,,	12	21	33
28 ,,	4	3	7
? ,,	736	827	1,563

Hence it follows, that from 12 hours to 4 days, and from 6 days to 21, more females die than males, and that the period when most deaths occur is in 12 hours, the least in one day; while the number (153) living it out till 14, 21, and 28 days, would be very remarkable, only that it is probable the consecutive fever must have been included, when they are stated as deaths from cholera.

DIAGRAM showing the DEATHS from CHOLERA to every 10,000 INHABITANTS in EACH DISTRICT of LONDON in 52 WEEKS ending SEPTEMBER 29; also the AVERAGE ELEVATION above TRINITY HIGH-WATER MARK, as estimated by CAPTAIN DAWSON, R.N.

ABBREVIATIONS.—c. denotes Deaths from Cholera to 10,000 Living; e. denotes elevation in feet above High Water Mark.

NORTH SIDE OF THE RIVER.
c. 42.

Hampstead c. 8
e. 100 Marylebone c. 17
e. 90 Pancras c. 22
e. 88 Islington c. 25
e. 55 Hackney c. 26
e. 44 Kensington c. 25
e. 43 St. James c. 15
e. 68 St. Giles c. 51
e. 53 Holborn c. 35
e. 63 Clerkenwell c. 18
e. 48 St. Luke c. 48
e. 48 Shoreditch c. 71
e. 36 Bethnal Green c. 91
St. George's, Hanover-square e. 34 c. 16
London City. c. 49 or c. 65
e. 12 Chelsea c. 53
e. 2 Westminster c. 69
e. 55 St. Martin in the-Fields c. 33
e. 50 Strand c. 35
e. 28 West D. c. 79 or 146*
e. 38 City D. c. 37
e. 42 East D. c. 43
e. 28 Whitechapel c. 67
e. 15 St. George-in-the-East c. 46
e. 16 Stepney c. 47
e. 10 Poplar c. 47

T H A M E S.

e. 22 Wandsworth c. 76
Including the deaths from Cholera in Mr. Drouet's Establishment 108
Lambeth e. 3 c. 113
e. 2 St. Saviour c. 162
e. 2 St. Olave. c. 152 or 179†
e. 0 St. George, Southwark c. 164
e. 0 Bermondsey c. 189
e. 0 Rotherhithe c. 263
e. 8 Greenwich c. 78
e. 2 below high water Newington c. 142
e. 4 Camberwell c. 100
e. 28 Lewisham c. 35

c. 124.
SOUTH SIDE OF THE RIVER.

Notes to the foregoing Diagram.

* The City of London, within and without the walls, is divided into three Unions for the Relief of the Poor, making three Registration Districts—the City, the West, and the East. Bartholomew's Hospital is in the West District. The 65 and 146 include the Deaths in St. Bartholomew's, into which many of the Patients are brought from other parts, as well as from the West London District.

† Including the Deaths in St. Thomas's Hospital, the Mortality from Cholera in St. Olave was 179.

The Deaths of several children who were removed from Mr. Drouet's Establishment at Tooting, in the Wandsworth District, occurred and were registered in other Districts of London. The Deaths from Cholera in St. Luke's Workhouse have been transferred from the Shoreditch District to St. Luke's District in the calculations.

V. DISTRICT OR LOCALITY.

In the West District of London there have been 1249 deaths, being 1 in 277 of the population; in in the North, 957, or 1 in 473 of the population; in the Central, 1727, or 1 in 222; in the East, 3182, or 1 in 140; and in the South, 7382, or 1 in 78 of the population.

It may be interesting to compare these results with the rate of mortality from all causes in 1848, in the several Districts above-mentioned, with their population and areas in square miles:—

Districts.	Area in Square Miles.	Population Enumerated in 1841.	Rate of Deaths from All Causes in 1848.	Rate of Deaths from Cholera in 1849, according to Enumerated Population for the same year.
			1 in	1 in
West District.	17·2	301189	37	277
North ,, ..	20·5	376568	46	473
Central ,, ...	2·8	374199	38	222
East ,, ...	8 8	393067	30	140
South ,, ...	66·2	503346	32	78
London	111·5	1918369	33	152

So that with respect to all diseases, in 1848, the best District as to health is the Central, and then follow respectively, the West, the North, the South, and the East; while, as to cholera, they would stand in this order,—the North best, then, the West, the Central, the East, and the South.

Of the sub-districts comprised under the above, the following is a statement of the population in each, between parenthesis ( ), and the number of deaths from cholera in the 54 weeks:—

West Districts. — Kensington (98,320) 266; Chelsea (48,392) 264; St. George, Hanover square (74,533) 131; Westminster (62,881) 444; St. Martin in the Fields (25,049) 86; St. James, Westminster (37,331) 58.

North Districts.—Marylebone (151,706) 257; Hampstead (11,457) 9; Pancras (154,152) 352; Islington (76,919) 194; Hackney (50,214) 145.

Central Districts. — St. Giles (54,199) 279; Strand (43,524) 158; Holborn (44,386) 160; Clerkenwell (65,725) 124; St. Luke (51,874) 187; East London (39,588) 180; West London (29,092) 430; London City (55,825) 209.

East Districts. — Shoreditch (96,272) 786; Bethnal Green (85,109) 798; Whitechapel (77,199) 543; St. George-in-the East (43,142) 206; Stepney (107,408) 520; Poplar (36,729) 329.

South Districts.—St. Saviour (32,910) 545; St. Olave (19,804) 363; Bermondsey (39,672) 767; St. George, Southwark (52,004) 867; Newington, (64,137) 926; Lambeth (143,557) 1647; Wandsworth (46,054) 510; Camberwell (52,246) 530; Rotherhithe (13,894) 370; Greenwich (93,964) 760; Lewisham (26,796) 97.

In contemplating of the causes giving rise to such a diversity of rates of mortality in districts comprised within an area of 115 square miles, one cannot help being struck with the difference of elevation as being one of those causes, in the specification of which we meet with less of exception to it as a rule than with respect to almost any other phenomena attending the disease. I therefore give the diagram in the preceding page, as delineated by the Registrar-General.

The order, then, according to elevation, of the sub-districts, with the deaths from cholera, is as follows:—

	Elevation.	Deaths in 10,000.		Elevation.	Deaths in 10,000.
Hampstead ...	...	8	Lewisham ...	28	35
Marylebone ...	100	17	West London..	28	*79
Islington ...	88	25	Wandsworth...	22	76
Pancras ...	80	22	Stepney	16	47
St. Giles ...	68	51	St. George-in-the-East ...	15	46
Clerkenwell ...	63	18	Chelsea	12	53
Hackney ...	55	26	Poplar	10	86
Holborn ...	53	35	Greenwich ...	8	78
Strand ...	50	35	Camberwell ...	4	100
St. Luke ...	48	48	Lambeth ...	3	113
Shoreditch ...	48	71	Westminster...	2	69
Kensington ...	44	25	St. Saviour ...	2	162
St. James, Westminster	43	15	St. Olave ...	2	†152
East London...	42	43	Bermondsey ...	0	189
London, City...	38	37	St. George, Southwark..	0	164
Bethnal-green	36	91	Rotherhithe ...	0	263
St. Martin-in-the Fields ...	35	33	Newington	2 below high water	142
St. George, Hanover-sq.	34	16			
Whitechapel...	28	67			

* Or, 146. See note to foregoing Diagram.
† Or, 179. See ditto.

Here we see that the exceptions to the rule of a high elevation being opposed to the advance of cholera, are St. Giles, Shoreditch, Bethnal green, and St. Luke's, places which, it is patent to every one, are subjected to other ill conditions which, if they were situated on Alpine ridges or Himalayan heights, would still be obnoxious to life; while the only exception to a low elevation being favourable to the dissemination of cholera, seems to be that of Westminster, a place which, though it has its dens, can yet boast of being one of the localities of the aristocracy. And I may remark here, that the south side of the Thames is not now for the first time marked as the great hotbed of pestilence, but was equally so 200 years ago. Dr. Webster says:—"In the plague of 1665, the number of deaths from this disease reported to have taken place on the Southwark side of the Thames, amounted to 11,176, although then very thinly inhabited compared to its present extent—one sixth of total deaths, with a population of one-twelfth." (a)

It is worthy of notice, that on May 26, when 5 deaths only are registered, and when it may be said to have fairly set in for its work of destruction, 2 of those deaths were registered in the west district, and the other 3 in the north, districts which have been shown to be the most free from the disease; and that of the 5 deaths, 1 occurred in Westminster, 1 in St. James's, Westminster, 2 in Marylebone, and 1 in Hackney, all, in the event, peculiarly favoured districts.

VI. METEOROLOGICAL PHENOMENA.

Thermometer.—The indications of this instrument for the 54 weeks may be seen from the diagram in p. 358, but, comparatively, we may state that the temperature has been plus of the average of seven years to the amount of 126·4° Fahr., in 32 weeks, and minus the same average to the extent of 77·2° in 22 weeks of the 54, giving a plus in the whole period of 49·2°.

The weeks in which it was plus are as follows: —Oct. 7, 14, 28; Nov. 25; Dec. 2, 9, 16, and 30; Jan. 13, 20, and 27; Feb. 3, 10, 17, and 24; March 3, 10, and 17; April 7; May 5, 19, 26; June 2, 9, 30; July 7, 14; August 11, 25; Sept. 1, 8, 29.

The weeks in which the temperature was minus are: —Oct. 21; Nov. 4, 11, 18; Dec. 23; Jan. 6; March 24, 31; April 14, 21, 28; May 12; June 16, 23; July 21, 28; Aug. 4, 18; Sept. 15, 22; Oct. 6, 13.

Barometer.—This condition may also be seen by the Diagram, only I may remark, that the differences, which appear to be great, are rendered so through the scale being drawn out to three places of decimal parts of an inch, but which really, in such an instrument as the Barometer, indicate without much exaggeration the effect of barometric pressure.

Electricity.—In the 54 weeks, negative electricity was shown on 18 days, in the weeks ending Oct. 14, 21; Dec. 2, 9, 30; Feb. 17; April 14, 21; May 19; June 1, 30; July 21, 28; and Aug. 18. Positive electricity was shown on 147 days, in the weeks ending Oct. 7, 14, 21; Dec. 9, 16, 23, 30; Jan. 6, 13, 20, 27; Feb. 3, 10, 24; March 3, 10, 17, 21; April 14, 21, 28; May 5, 26; June 2, 9, 16, 23, 30; July 7, 28; August 4, 11, 18, 25; Sept. 1, 8, 15, 22, 29; Oct. 6, 13. Nothing was shown on 199 days, and in every week, excepting those ending Aug. 4 and Sept. 15. In the 2 weeks ending March 31 and April 7, no observations are recorded. From the week ending Sept. 28 to that of Nov. 25, nothing was shown on any day, as likewise in the weeks ending May 12 and July 14.

Rain in Inches.—During the period included in this inquiry, the amount of rain fallen has been 26·90 inches. During 6 weeks only there has been no rain indicated, viz., in those ending Feb. 17, March 17 and 24, June 23, and July 7 and 14. The largest quantity of rain fallen has been in the weeks ending Oct. 14 and 28, Nov. 4, Dec. 2, 9, and 16, March 3, April 21, May 26, June 2, July 28; Oct. 6 and 13; in which the quantity was respectively 0·81, 1·35, 0·89, 0·86, 0 74, 0·92, 1 48, 0 90, 1·37, 1·60, 2·15, 2·20, and 0·74, giving a total, in the 13 weeks, of 16 01 inches, and leaving 10·89 inches to be distributed among 41 weeks, or about 0·46 per week.

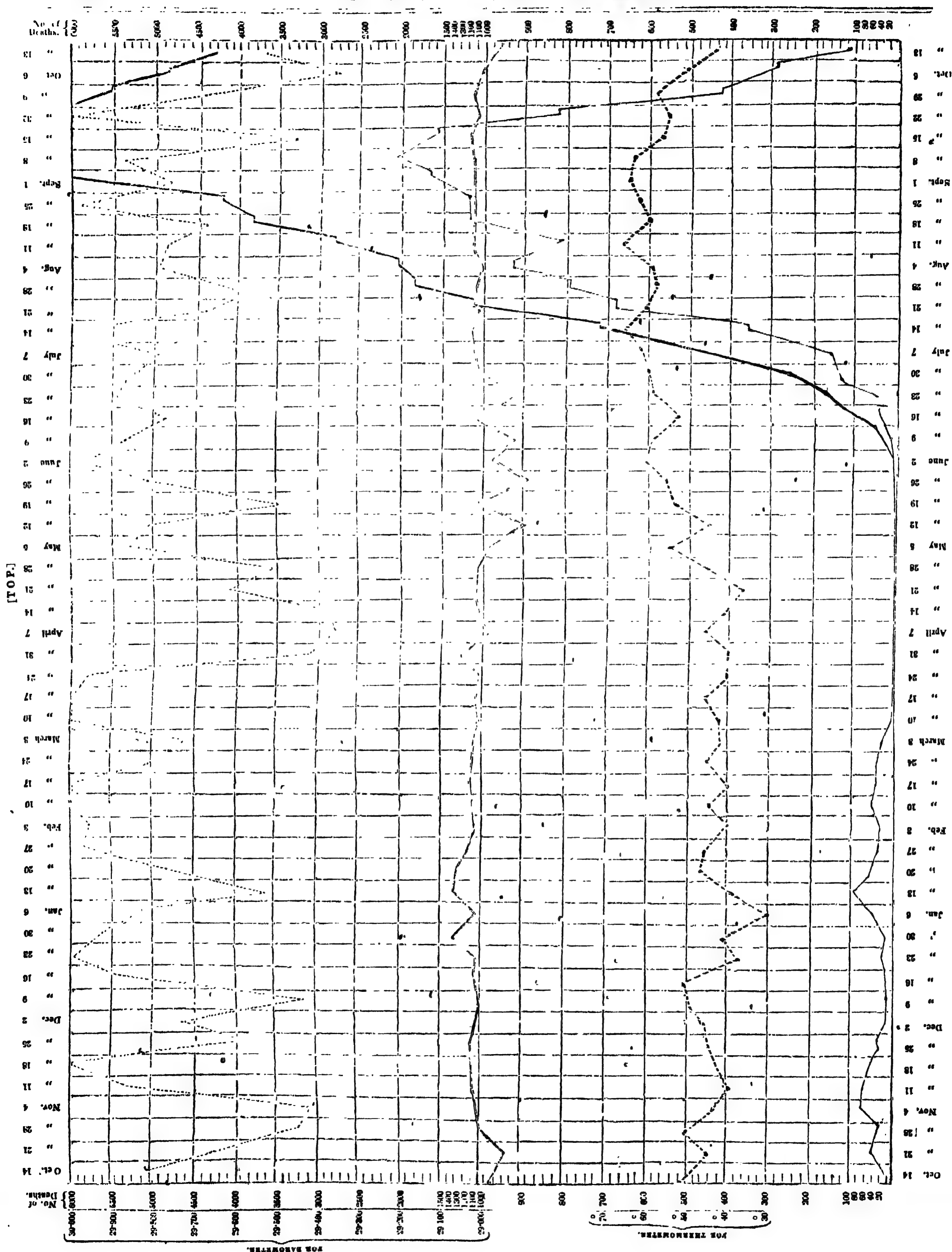
Horizontal Movement of the Air.—This occurred as follows:—

		Miles.			Miles.
Oct.	7	925	April	28	440
"	14	1010	May	5	515
,,	21	1075	,,	12	705
,,	28	1290	,,	19	935
Nov.	1	665	,,	26	510
,,	11	1070	June	2	315
,,	18	1005	,,	9	450
,,	25	1150	,,	16	450
Dec.	2	1685	,,	23	505
,,	9	2040	,,	30	475
,,	16	1115	July	7	440
,,	23	510	,,	14	290
,,	30	765	,,	21	705
Jan.	6	535	,,	28	720
,,	13	1580	Aug.	4	759
,,	20	1340	,,	11	420
,,	27	2215	,,	18	1009
Feb.	3	820	,,	25	310
,,	10	1000	Sept.	1	550
,,	17	855	,,	8	485
,,	24	1440	,,	15	560
March	3	335	,,	22	335
,,	10	No observations.	,,	29	355
,,	17	...	Oct.	6	490
,,	24	...	,,	13	520
,,	31	...			
April	7	...			
,,	14	...			
,,	21	...			

VII. SEASON OR PERIOD.

After many indications of the advance of the disease to the Metropolis, on October 7, 1848, 13 deaths from it were registered; in the next week this number rose to 30, and it then gradually advanced, until, on Nov. 4, 65 deaths had occurred; from this period it fell, till Jan. 6, when 61 deaths are given; then, on the 13th, 94; and again gradually falling, till, on April 21, the return only gives 1 death from cholera. On June 2, however, there are 9 deaths; then, the next week, 12; and from this period it advanced rapidly till, in the week ending Sept. 8 (fifteen weeks) it arrived at its maximum, 2026; then falling, however, more rapidly than it rose, so that in five weeks it numbered only 110. Thus it had been dragging along from September of 1848, waiting, like a destroying army, for the summer months, then to advance in its work of destruction till the approach of another winter should say, "Hitherto shalt thou go, but no further." To aid the reader, however, in another way to realize the course the cholera has taken in respect to season, I here give the following diagram, which exhibits at one view the course of the cholera from Oct. 14, 1848, to Oct. 13, 1849, compared with the plague of 1665, and the deaths from all causes, cholera excepted, for the same period, together with the state of the thermometer and the barometer.

(a) Essay on Epidemic Cholera, p. 178.



No. of Deaths.
[TOP.]
Oct.
Nov.
Dec.
Jan.
Feb.
March
April
May
June
July
Aug.
Sept.
FOR BAROMETER.
FOR THERMOMETER.

Explanation of the Diagram.—The *perpendicular* lines mark the period from Oct. 14, 1848, to Oct. 13, 1849, into 53 weeks. The *horizontal* lines mark numbers of deaths from 1 up to 6,000, in divisions of 100 each up to 1,000, and from thence in divisions of 500 each. These lines also serve for the barometer and thermometer, where their respective scales are placed, and according to the numbers there indicated. The *thin line* represents the course of the cholera of 1849; the *thick black* line represents that of the Plague of 1665; the *double thin* line the deaths from all causes (excepting cholera) in 1848-9; the *thick dotted* line the thermometer; and the *thin dotted* line the barometer.

I know not how to depict better the peculiarity of the cholera, so far as the number of deaths and the season of the year are concerned, than by the foregoing diagram. The plan upon which it is constructed, once understood, presents very many points of interest, not the least of which is the remarkable coincidence between the course in the cholera and that of the Plague, virulence alone excepted. Nor is this the only instance, for of the four Plagues, those of 1603, 1625, and 1665, as compared with the cholera, the same phenomenon appears. I subjoin the following Table :—

TABLE showing the NUMBER of DEATHS WEEKLY, as well of all DISEASES as of the PLAGUE, in the YEARS 1603, 1625, 1636, and 1665, and of the CHOLERA in the same weeks of 1849.

Weeks.		1603.		1625.		1636.		1665.		1849.	
		Total.	Plague.	Total.	Plague.	Total.	Plague.	Total.	Plague.	Total.	Cholera.
June	2	114	30	395	69	339	77	399	17	895	9
,,	9	131	43	434	91	345	87	405	43	971	22
,,	16	144	59	510	161	381	103	558	112	912	42
,,	23	182	72	640	239	304	79	611	168	985	49
,,	30	267	158	942	390	352	104	684	267	1217	124
July	7	445	263	1222	593	215	81	1006	470	1070	152
,,	14	612	424	1781	1004	372	104	1268	727	1369	339
,,	21	1186	917	2850	1819	365	120	1761	1089	1741	678
,,	28	1728	1396	3583	2471	423	151	2785	1843	1931	783
August	4	22·0	1922	4517	3659	491	206	3014	2010	1967	926
,,	11	2077	1745	4855	4115	538	283	4030	2817	1909	823
,,	18	3051	2713	5205	4163	638	321	5319	3880	2230	1230
,,	25	2853	2539	4841	4218	787	429	5568	4237	2456	1272
Sept.	1	3385	3036	3897	3344	1011	638	7496	6102	2796	1663
,,	8	3078	2724	3157	2550	1069	650	8152	6968	3183	2026
,,	15	3129	2818	2148	1672	1306	865	7690	6544	2865	1082
,,	22	2456	2195	1994	1551	1229	775	8297	7165	1981	839
,,	29	1961	1732	1236	852	1403	928	6460	5533	1611	434
Oct.	6	1831	1641	833	538	1405	921	5720	4929	1290	288
,,	13	1312	1149	815	511	1302	792	5068	4327	1075	110
,,	20	766	642	651	331	1002	555	3219	2665	1028	41
,,	27	625	508	375	134	900	458	1806	1121	902	25
Nov.	3	735	594	357	89	1300	838	1388	1031	......	......
,,	10	545	442	319	92	1104	715	1787	1414	......	......
,,	17	384	251	274	48	950	573	1359	1050	......	......
,,	24	198	105	231	27	857	476	905	652	......	......
Dec.	1	223	102	190	15	614	321	514	333	......	......
,,	8	163	55	181	15	159	167	428	210	......	......
,,	15	200	96	168	6	385	85	442	243	......	......
,,	22	168	74	157	1	...	...	525	281	......	......
Total		37,294	30,561	51,578	35,403	23,359	10,400	97,366	68,596		

Much has been said as to the dependence to be placed on the records as to the plague, and the correctness of the old Bills of Mortality; but, from a glance at them, as here given, they seem to bear internal evidence of an approximation to the truth; and Heberden says: "The agreement of these Bills with each other does alone carry with it a strong proof, that the numbers under the several articles are by no means set down at random; and that such registers, taken together and considered on an extensive scale, must be allowed to constitute a very unexceptionable basis for medical reasoning."

It has been frequently said, that while any pestilence is raging, other diseases (especially those of the zymotic class) are found partially to succumb. The Table at the end of this Section will show how far this is borne out by facts, giving, as it does, the following result, as deducible from it :—

	1840	1841	1842	1843	1844	1845	1846	1847	1848	1849
Cholera	61		120	80	66	52	221	104	273	13554
Typhus	695		652	1235	977	662	530	1734	1974	1385
All Zymotic Diseases except Cholera	2772	2298	2644	5670	3904	4865	5393	7264	9816	8669
						or, Deduct Diarrhœa beyond the average of 5 years....			...	1779
										6890

According to this, then, the average of typhus being, for the ten years, 1,021, the deaths in 1849 were over the average by 364, but under those in the years 1847 and 1848, by 349 and 589 respectively. The average of deaths from all zymotic diseases, excepting cholera, being, in the ten years, 5,151, the deaths in 1849 were 1,739 above that average, but under the deaths in 1847 and 1848 by 374 and 2,926 respectively. It will be seen from hence, that here is no ground for the assumption, that other diseases are in check while cholera is prevalent; for, though there does appear a decrease in 1840, both as to typhus and all zymotic diseases, compared with 1847 and 1848, and that notwithstanding increase of population, yet the difference is not so much, but it may be accounted for by the fact of the cholera taking off a great number who would otherwise have been the subjects of other zymotic diseases. It is worth noting, however, the vast increase of deaths from typhus and all zymotics in the two years previously to the ravages of cholera.

TABLE showing the NUMBER of DEATHS from CHOLERA, TYPHUS, and all ZYMOTIC DISEASES except CHOLERA, in the TEN YEARS 1840, 1841, 1842, 1843, 1844, 1845, 1846, 1847, 1848, 1849; and the DEATHS from ALL ZYMOTIC DISEASES in 1849, excepting Cholera and Diarrhœa, for the weeks ending April 7 to October 20.

NOTE.—C. stands for Cholera. T. for Typhus. "All" signifies all Zymotic Diseases except Cholera. In the years from 1840 to 1847 the Weekly Average is given on each Quarter's Return. In the years 1848 and 1849 the real numbers are given.

Weeks ending	1840.						1842.			1843.			1844.			1845.			1846.			1847.			1848.			1849.			
	C.	T.	All	C.	T.	Al	C.	T.	All.	C.	T.	All.	C.	T.	All.	C.	T.	All.	C.	T.	All	C.	T.	All.	C.	T.	All.	C.	T.	All.	All without Cholera and Diarrhœa.
April 7 ...	·3	25	160	·08				20	123	·6	53	186	·7	35	188	·2	24	145	·7	28	137	·3	44	162	...	60	239	5	38	216	208
,, 14 ...	·3	25	160	·08				20	123	·6	53	186	·7	35	188	·2	24	145	·7	28	137	·3	44	162	1	47	274	2	43	239	225
,, 21 ...	·3	25	160	·08				20	123	·6	53	186	·7	35	188	·2	21	115	·7	28	137	·3	44	162	...	62	252	1	46	247	229
,, 28 ...	·3	25	160	08				20	123	·6	53	186	·7	35	188	·2	24	115	·7	28	137	·3	44	162	2	67	236	1	34	232	216
May 5 ...	·3	25	160	·08				20	123	·6	53	186	·7	35	188	·2	21	115	·7	28	137	·3	14	162	2	75	269	4	36	244	220
,, 12 ...	·3	25	160	·08				20	123	·6	53	186	·7	35	188	2	24	115	·7	28	137	3	44	162	1	73	262	3	33	208	192
,, 19 ...	·3	25	160	·08				20	123	·6	53	186	·7	35	188	·2	21	145	·7	28	137	·3	44	162	...	79	269	1	42	235	220
,, 26 ...	·3	25	160	·08				20	123	·6	53	186	·7	35	188	·2	24	115	·7	28	137	·3	44	162	...	66	280	5	43	228	209
June 2 ...	·3	25	160	·08				20	123	·6	53	186	·7	35	188	·2	24	145	·7	28	137	·3	44	162	1	77	277	9	23	200	184
,, 9 ...	·3	25	160	·08				20	123	·6	53	186	·7	35	188	·2	24	145	·7	28	137	·3	44	162	2	67	202	22	38	229	207
,, 16 ...	·3	25	160	·08				20	123	·6	53	186	·7	35	188	·2	24	145	·7	28	137	·3	44	162	5	69	284	42	45	209	173
,, 23 ...	·3	25	160	·08				20	123	·6	53	186	·7	35	188	·2	21	115	·7	28	137	·3	44	162	...	67	310	49	46	228	211
,, 30 ...	·3	25	160	·08				20	123	·6	53	186	·7	35	188	·2	21	145	·7	28	137	·3	44	162	3	73	318	124	45	225	195
July 8 ...	4	23	171	2				24	166	5	34	200	4	33	246	2	21	183	15	31	234	7	69	305	7	65	331	152	46	241	195
,, 15 ...	4	23	171	2				24	166	5	34	200	4	33	246	2	21	183	15	31	234	7	69	305	9	59	310	339	48	291	202
,, 22 ...	4	23	171	2				24	166	5	34	200	4	33	246	2	21	183	15	31	234	7	69	305	21	70	369	678	53	524	198
,, 29 ...	4	23	171	2				24	166	5	34	200	4	33	246	2	21	183	15	31	234	7	69	305	26	77	479	783	37	390	166
Aug. 4 ...	4	23	171	2				24	166	5	34	200	4	33	246	2	21	183	15	31	234	7	69	305	21	55	413	926	39	382	203
,, 11 ...	4	23	171	2				24	166	5	34	200	4	33	246	2	21	183	15	31	234	7	69	305	19	66	433	823	54	359	186
,, 18 ...	4	23	171	2				24	166	5	34	200	4	33	246	2	21	183	15	31	234	7	69	305	17	61	428	1230	46	363	175
,, 25 ...	4	23	171	2				24	166	5	34	200	4	33	246	2	21	183	15	31	234	7	69	305	7	87	356	1272	77	440	200
Sept. 1 ...	4	23	171	2				24	166	5	34	200	4	33	246	2	21	183	15	31	234	7	69	305	7	63	390	1663	47	406	172
,, 8 ...	4	23	171	2				24	166	5	34	200	4	33	246	2	21	183	15	31	234	7	69	305	7	89	111	2026	52	443	171
,, 15 ...	4	23	171	2				24	166	5	34	200	4	33	246	2	21	183	15	31	234	7	69	305	6	63	368	1682	60	477	197
,, 22 ...	4	23	171	2				24	166	5	34	200	4	33	246	2	21	183	15	31	234	7	69	305	7	58	386	839	73	462	214
,, 29 ...	4	23	171	2				24	166	5	34	200	4	33	246	2	21	183	15	31	234	7	69	305	4	69	391	434	72	348	185
Oct. 6 ...	4	23	171	2				24	166	5	34	200	4	33	246	2	21	183	15	31	234	7	69	305	13	65	417	288	53	320	185
,, 13 ...	·5	24	189	·2				28	160	1	35	226	·4	30	230	·8	28	209	1	48	168	1	98	444	30	80	418	110	47	262	171
,, 20 ...	·5	24	189	·2				28	160	1	35	226	·4	30	230	·8	28	209	1	48	168	1	98	444	45	65	348	41	68	236	185

Such are the principal facts in connexion with the cholera, so far as registered statistics give them, and I need hardly add, in conclusion, that they invite, as much as they demand, most careful study. That these facts may tend to throw in any light as to the treatment of the disease, of course, is not pretended; but it remains to be shown what that disease is, in the history of which the Profession is not interested, especially as it aspires more to the character of benevolence and philanthropy, than to have their names inscribed on the rolls of fame, or to stand well on the balance-sheet of the world's commerce.

THE COMMUNICABILITY OF THE CHOLERA POISON FROM MAN TO MAN.

By ALFRED EBSWORTH, Surgeon, Basford Union.

After the *emanations* from the General Board of Health, and the broad assertions made by them, as to the non-contagiousness of cholera, I felt assured the disease was as harmless as a sucking babe; and that one might dissect a case with impunity, examine the discharges, and inhale the volatile odours of the quickly decomposing corpses with the greatest *sang froid*. The experience of the last few weeks, however, has taught me to believe their deductions as fallacious as their reports; both are on a par, equally deceptive and prejudicial to the public weal. If cholera is contagious, and the following cases go strongly to prove the point, will not a vast deal of mischief be done in families who are led to believe the contrary? The loving wife will hang imprudently over an afflicted husband. Children will come in and out of the sick chamber, and carry the plague-spot into every room and bed in the house. Neighbours will take charge of a child, and so induct the poison into their own kind breasts: in fact, I am convinced, the more you propagate a theory adverse to the truth, the more mischief must accrue in the long run to the believers in it.

Cholera is epidemic, but it is also *contagious* and *infectious*—a bad locality attracting the poison to the inhabitants—and the inhabitants themselves being leavened by a little leaven, if of fungoid origin, (which I greatly doubt, notwithstanding the high note of the tin trumpet,) the fungus *spreads like bricks* (of mushroom spawn) and brings forth fruit in every hot-bed it may find. But to my cases:—

Robert Stainforth, residing in an isolated house,—a clear, constant brook of good water runs in front, and not a case of cholera has occurred within twenty miles of his residence. Hears of the illness of his son and sister at Hull, where cholera was raging. He goes and performs the last offices to each. He returns home in health and spirits, having performed his duty, and braved the complaint, and retires to bed in the enjoyment of full and perfect health to all appearances. The seed of the disorder has been brought, however, with him, and he had not been more than two hours in bed before diarrhœa begins; it becomes more violent, and I am sent for at 2 a.m. He now has awful cramps, whispering voice, feeble pulse, blue contracted surface, cold thrilling tongue, rice water deluging purging, and, in less than twenty-four hours he is gathered to his father's tomb. What is this but infection? Yes, but others in his family, who nursed him in his illness, did not take it; no, perhaps a higher Power rewarded their assiduity and tenderness, and preserved them.

William Pinket, residing in a row of six houses of an inferior description is attacked, and dies in a few hours. This is the first case in the village of Bulwell. How he took it, Heaven knows! Now, mark the progress of the disorder. His four brothers and sisters take it. The man who laid him out takes it. The next door neighbour takes the disorder into his family, after performing a similar office. Then, a child belonging to this last family, goes to sleep with a neighbour's family, and they begin in the night. Another man, residing away from all these, calls repeatedly in to assist and condole with the 2nd case; takes it in to the family, and two of his children are the victims. Or, taking the houses as 1, 2, 3, 4, 5, 6, and 7, in a different situation: we find the disease breaking out at 3, the disease is propagated to 1 and 4, who laid the body out, and carried it to the grave. No. 4 sends a child also to No. 1, and the members of the family who sleep in the chamber with it are infected. No. 7 comes in to No. 4, to perform charitable offices, takes the disease home in his clothes, gives it to his family, two of whom die very speedily. And, again, a man passing by the above houses daily to his dinner, takes the disorder into his family, and his grandmother falls. Here we have instances both of virulent contagion, and a very probable case of infection. The above facts only serve to confirm much what others have written and observed upon; and the inferences I have drawn from them is in my practice to lay down rules to the families I attend, to beware of everything which will tend to propagate the disorder—to have straw beds which can be burnt, old sheets and blankets which will not harm in the bleach-tub, and, above all, to smother, as far as possible, those feelings which tend to depress the spirit, and prompt to inhale the poisoned breath of a child or parent unnecessarily

I can add nothing to the true treatment of cholera patients. I believe we are on a wrong scent, and very far from home. I am, however, convinced that chloroform, applied externally to the abdomen, calves of the legs, and all the muscles affected with cramp, is a most invaluable anti-spasmodic; it must be used very freely externally, very sparingly internally, as it produces a determination to the brain during the re-action, which is troublesome to treat. I write these hasty remarks, put together during an hour's respite from arduous, ill-paid, apparently never-to-be-better-paid parochial duties.

[In reference to some of the facts detailed in the above interesting communication, we beg to call our Correspondent's attention to one or two points. It is evident that the case of Robert Stainforth proves only that a man may take cholera if he goes into a place where cholera prevails. Had any of the attendants on this man suffered, the inference might have been different. The second instance certainly seems to point to contagion; but, to make the evidence at all stringent, we require fuller particulars. We ought to know what is the population of the village, how many died, whether many were dying at the time these cases occurred, which were supposed to be traced to intercourse, but which possibly may have been owing, for anything we know, to the influence of a generally diffused cholera poison? If these were the *only* cases in a town of any size, and if the six houses referred to presented no unusual conditions which might locate cholera, our Correspondent's opinions would be strengthened. But we think he is rather inclined to believe, on slight evidence, when he traces the death of a man to the importation of poison in the clothes of a person who had merely passed the houses in question. After all, the *first* case is the important one. How did *this* originate?—Ed *Med. Times.*]

CASE OF PLACENTA PRÆVIA.

By W. F. VIDAL, M.R.C.S., Aveley, Essex, late House Surgeon to the London Hospital.

Emma T., aged 37, wife of a waterman, a woman of a full habit, being pregnant for the ninth time, wished to be attended by me in the event of her sending, as she felt very unwell, and at the same time stated, that the previous morning, and also three times before, she had a profuse discharge of blood, the first time being about the third month of utero-gestation, which gradually ceased on lying down. I recommended quietude, the recumbent position as much as possible; there being no hæmorrhage at that time, objected to an examination per vaginam, and as she was at the full period of her time, desired, that if a similar attack returned, to send without delay.

I heard no more of the case until five days after, when I was summoned at about half-past five, a.m., to go immediately to my patient, as she was in a very low state. I promptly attended, as, from the previous losses of blood, my suspicion was a case of placental presentation. On entering the room, I found her in the semi-erect posture in the bed, with wet napkins applied to the pubis, and in a very low state; countenance pallid, pulse rapid and extremely feeble; the bed, &c., was saturated with blood. On inquiry, I learnt that she had an attack similar to the first the same day after she had spoken to me, and also symptoms of approaching labour, both of which continued in a slight degree for three days, when the discharge ceased, the pains remaining, but less severe. On the following day, she exerted herself all day in her household duties, and felt great heaviness for sleep during the day, which increased at night; she went to bed, and, after a short time, all pains left her and she fell into a sound sleep and continued to do so until five o'clock the following morning, when she awoke with a feeling of faintness and general debility, and lying in a pool of blood, which greatly alarmed her, and immediately I was sent for. After some trouble I got her to the foot of the bed, as she dreaded to move from her position, and, on an examination per vaginam, found the thick mass of the placenta situated over the os uteri, and almost completely detached, with the exception of a small portion near the left side of the womb. The mouth of the latter dilated to an extent sufficient to allow nearly the introduction of the hand, and inclining to yield. During my examination a gush of blood took place, which immediately induced me to separate the remaining adherent portion of the after-birth, and endeavoured to find the feet of the child, which I soon managed, and, in the act of turning, a sudden return of hæmorrhage occurred, which drove the placenta, together with some clots of blood, by my arm externally; I ligatured the cord by the assistance of the nurse, deeming it might be of some object to the infant, although, from all appearances, "dead," as there was no pulsation in the cord, and a quantity of meconium passed; and also what might be expected from the small quantity of nutrition received, if one may judge from the proximity of the placenta, in this instance, being so slight to the uterus.

As soon as the operation of turning had been accomplished the woman seemed so exhausted that I thought further proceedings would have been attended with great hazard, and therefore waited for a time until she rallied, at the same time keeping my hand in the mouth of the uterus as a plug, and I gave slight stimuli; after a short time she regained her strength, pulse rose, and she expressed herself better. My wish was then to empty the uterus as soon as possible, which was done with comparatively little difficulty; after which, to my surprise, "there being no hæmorrhage at the time," she became perfectly insensible, and remained in that state for some minutes, when consciousness gradually returned, but not the power of articulation; the pulse extremely low. I ordered an egg beaten up with brandy, which seemed to have the effect of restoring, in part, the vital functions. The uterus contracted steadily and firmly, and no return of the flooding, which I attribute greatly to the syncope after the delivery. I remained some time with her, and left her as comfortable as possible after so severe a trial, and gave an anodyne mixture of tincture of opium and camphor mixture to be taken every three hours, and on visiting her in the evening, was pleased to find that she was perfectly composed, pulse tranquil, slight fever, and she had slept. My patient did well, and is now in perfect health.

My success in this case I impute to prompt and active measures, which, in one so severe, is, in my opinion, the sole hope of a favourable termination. At the same time, a constitution so good as that of my patient tends much to ultimate recovery.

PUERPERAL CONVULSIONS TREATED WITH CHLOROFORM.

By JOHN H. AGAR, M.D., Antigua.

January 3rd, 1849.—I was called in to a consultation in the case of Mrs. ——, after delivery of first child. She was seen for the first time on the morning of the 2nd, between 9 and 10 o'clock, when she complained of slight pains and bearing down, which commenced between 12 and 1 o'clock the previous night. On examination, the os was in no way dilated, and the parts were hot and dry. Pains continued increasing, and with more frequency, up to 1 o'clock, p.m.; the os was then slightly dilated, and the parts somewhat moister than on previous examination. 2 o'clock, labour progressing rather slow; pains at intervals of ten minutes, but not more severe; the membranes gave way at 5 o'clock; head in pelvis; external parts very rigid; pains as usual. At 6 o'clock she was seized with a strong convulsion; venesectio ad. ℥xx., with immediate relief, the pains subsiding for an hour, when, on their return, another strong convulsion followed, venesectio ad. ℥xvi., this also with relief. 8 o'clock.—Presuming the child to be dead, and deeming it advisable not to delay delivery longer, delivered with crotchet. 9 o'clock.—Expressed herself comfortable and relieved, got an opiate, and rested well up to 6 o'clock, a.m., when convulsions returned; venesectio ad. ℥xii., chlorid. hydr. gr. x. s., sumend.; emplast. vesicat. nuc 7 o'clock.—Convulsions frequent and very severe. Rept. chlorid. hydr., and having, with a great deal of trouble, ascertained from the nurse that the patient was for days previous constipated, ordered ol. croton, gt. i., omni. secund. hor. cum. enem. assaf. c. spirt. terebinth. pro re natâ. 10 o'clock.—Head shaved, and a large blister applied; convulsions violent and frequent during the day. This is the history of the case, as given to me by her accomplished physician, Dr. Sedgwick, when I saw her at 5 o'clock, p.m., for the first time, in convulsions. Neck turgid, face livid and bloated, with frothy and bloody mucus blubbering through her lips; conjunctiva injected, pupils normal; pulse frequent and volumeless; surface cold and clammy; uterus soft and dilated; no intermission in the paroxysms, and momentary threatenings of fatal asphyxia. No time was to be lost, and to our hurried review these were symptoms, common to congestion within cranium, or reflex irritation. The absence of coma or prolonged stupor during the intermission of the paroxysm in the commencement of the attack, suggested the latter; then the question was, what's to be done? Would time permit to begin to give opium? It was decided to put her immediately under the influence of chloroform. This was effected fully in little more than a minute; in ten minutes the uterus was contracted firmly to the size of a fœtal head, though previously a tight bandage, with a cup-shaped segment of a gourd and pad, made no impression. My having occasion shortly after to leave, we agreed to keep alternate watch. On my return in two hours, Dr. Sedgwick told me she remained fully under its influence for the first forty minutes, when he had to repeat it occasionally. I then took my turn at the bedside of our patient. After an hour and ten minutes, she rolled three or four times from side to side, at the same time drawing up her knees towards abdomen suddenly, and more spasmodically than looked safe. I had not repeated the chloroform for twenty-nine minutes previously, but for the next three and a half hours she was kept fully under its influence, repeating it at intervals of from fifteen to twenty minutes. During this time she lay perfectly quiet, respiration deep, pulse full, surface warm; after this there was no repetition of inhalation. Suffice it to say, from this time the case progressed rapidly to convalescence; recollection perfect on the second day. Between chloroform and opium, in the treatment of puerperal convulsions, to which does the advantage obtain? This question suggests itself, as I have seen it, in a work justly recommended, Dr. Maunsell's "Dublin Practice of Midwifery," affirmed by the Author that he never saw a case of convulsions recover unless the bowels have been got to act. I presume he includes many who have had opium fully administered. In this case purgatives had not the desired effect, and several hours after, (ten,) all symptoms had ceased, we deemed it prudent to order to repeat enema, which acted freely, bringing away a quantity of vitiated discharge and scybalous fæces.

HOSPITAL REPORTS.

St. VINCENT'S HOSPITAL.

Margaret Egan, aged 35, in a quarrel with her husband, jumped out of a first floor window into an area; after which she suffered several falls in repeated attempts to get up. The right side of the cheek was contused and swollen. Some of the front teeth knocked out. There was fracture of the left radius at its carpal extremity, and of the inferior maxilla; and she complained of pain about the right hip, which, on examination, presented the following appearances. The whole of the dorsum of the right ileum presented a remarkable fulness, from this point the right thigh in descending was inverted, and the knee showed a shortening to the amount of about three inches. On placing the two limbs together, this shortening was equally perceptible at the ancles. On reference to the spinous processes of the ileum on each side, it was found that about three quarters of an inch of the shortening alluded to could be accounted for by obliquity of the pelvis, the right side of which lay on a plane higher than the left. When she was placed as nearly as possible in the straight position, and extension of the affected limb was made, the latter and the pelvis could be drawn down so far as to remove that amount of the shortening that depended on obliquity of the pelvis. When further extension was attempted, the two ancles were brought nearly on a level with each other, but a second reference to the pelvis showed that this was occasioned by a forcible descent of the ileum on the injured side, bringing it lower than the other. When the extension was omitted, the pelvis was returned to its place, and the shortening appeared as before. On attempting to rotate out wards the strongly inverted foot, it was found that considerable mobility of the limb existed; the limb could be everted to a point that brought the toes in a line with the leg, and even a little beyond it; but complete eversion was impossible. The pain occasioned by the manipulation was considerable, but not so great as that usually produced in fracture of the neck of the femur, and no crepitus could be detected. When the hand was placed over the ileum, with a view to examine the trochanter, this prominence could be felt a little higher, and more backward, than usual. But it was impossible to detect the head of the bone in the general fullness of the whole hip in this patient, who was a very fat woman. The integuments over the hip presented no mark of contusion, while the skin covering the inner condyle of the femur was cut and abraded in several places.

The diagnosis of dislocation having been made, the patient was placed lying on a mattrass on the floor, and the usual pullies having been fixed and prepared, the patient was put under the influence of chloroform, and, with the able assistance of Sir Philip Crampton, Drs. Harrison, Scriven, Macarthy, and Bellingham, the limb was reduced in less than a minute, being about twenty-two hours after the accident. The patient was totally unconscious of pain.

Remarks.—Dr. O'Ferrall stated to us, that the characteristic features of dislocation backwards into the sciatic notch, were curiously blended with some of those which are met with in impacted fracture of the neck of the femur. There was a remarkable degree of mobility when the limb was rotated outwards; and although the hand laid over the trochanter assured him that the arc of a circle described by the neck of the bone, was equal to its whole length in the normal state, and that, consequently, no complete separation of the neck and shaft could have existed, it still remained a question, whether this movement might not be the result of an impacted fracture. This supposition would be naturally suggested by the mobility alluded to, which was greater than that usually observed in dislocation into the sciatic notch, and which existed in a degree quite incompatible with a dislocation upwards and backwards on the dorsum of the ileum. However, the age of the patient, and the impossibility of complete eversion, led to the conclusion that luxation did exist. Assuming, then, that it was a dislocation, the diagnosis lay between dislocation on the dorsum and that into the sciatic notch. The mobility of the limb was in favour of the opinion that the head of the bone lay in the sciatic notch, while the great shortening seemed to belong to displacement on the dorsum of the ileum. Dr. O'Ferrall is of opinion that, in estimating the evidence on this point, regard should be had to the sex of the individual. If we examine the skeleton of a female, we shall find that the relative position of the acetabulum and the sciatic notch differs considerably from that which occurs in the male, the angle made by the sacrum and pelvis in the female, with the vertical line of the spinal column, occasions the projection backwards of the pelvis in such a degree as to raise the sciatic notch nearly vertically over the acetabulum. In the case of the male, the displacement would be backwards, and a little upwards, while in the female it would be nearly directly upwards. This anatomical fact reconciles, then, the remarkable shortening which, in a male patient, must inevitably belong to dislocation on the dorsum of the ileum, with the equally remarkable mobility, which could not be present in that case.

The value of the fixed points afforded by the spines of the ileum, when estimating the degree of shortening of the limb, is unquestionable. But it will be seen, by reference to this case, that during the examination the pelvis must be examined from time to time, in order to avoid the error of supposing that the limb admitted of reduction by extension to its normal length, an error which might lead to the supposition of simple fracture. The apparent removal of the shortening may be, as in the present instance, owing to the drawing down of the pelvis at the side at which extension was made.

In making the diagnosis, in this case, regard was of course had to the comparative youth of the patient, to the absence of any marks of contusion on the hip, and to the laceration of the integuments over the inner condyle, the latter pointing out the part to which the force had been applied.

PROGRESS OF MEDICAL SCIENCE.

GERMANY.

ON THE GENERIC IMPORT AND DEVELOPMENT OF THE UPPER GERMINAL LAYER IN THE OVUM OF VERTEBRATE ANIMALS.

(*B. Remak in Muller's Archiv. Heft II.* 1849.)

In the communication to the Berlin Academy, from which the following is translated, the Author states that he has long wished to discover the genetic import of the upper germinal layer. In the summer of 1848 he obtained a solution of the question.

When the scutiform thickening of the germinal disc appears (the "embryonalschild" of Baer,) three definite layers may be distinguished in the germinal disc. In this thickening only the upper and the middle layers partake: the under layer being not concerned in it. This latter layer, which forms the epithelium, not only of the intestinal tube, but also that of the air-tube, the cellular parenchyma of the liver, the pancreas, the kidneys, the thyroid, and the thymus, I propose to name the *gland-layer*. The scutiform central parts of the upper and middle germinal layers grow together in their long axis. By this confluence commences the axial plate or primitive streak of Baer, from which proceed the medullary plate, the primordial vertebral plates, and the chorda. The medullary plate is thus connected with the free part of the upper germinal layer, while the primordial vertebral plates are connected with the middle layer. Both upper and middle germinal layers show a thickening, which encircles the axial structures, and is a residue of the double shield, not partaking in the

forming of the axial plate. (Wolff's "laminæ abdominalis.") The author has not been able to convince himself that a process of the free part of the upper layer covers the medullary plate.

That free portion of the upper germinal layer which limits the medullary plate is neither,—as Pander, Baer, and others interpreted it,—the foundation of the abdominal walls, ("serous or animal layer,") nor yet, as others have asserted, a transitory enveloping membrane. But it covers the embryo, and is thus *the foundation of the non-vascular and nerveless tegumentary coverings, the epidermis, the nails, the feathers, and the beak.* The peripheric part clothes the cavity of the amnion and, after the conclusion of the amnion, a process which separates itself from this, and surrounds the yolk, forms the so-called serous membrane. The name "horn-layer" (hornblatt) might best serve for this part of the upper germinal layer, which takes no share in the axial structures.

During the third day of incubation, the costal plates separate from that thickened portion of the middle germinal layer which defines the primordial vertebral plates; they are then apposed to a correspondingly thickened part of the horn-layer, so as to give rise to the cavity of the belly. The horn-layer thus loses its individuality, and becomes a covering of the costal plates. The limbs which spring from these latter, in growing, carry before them this covering. Even at the seventh day, a considerable thickening may be seen at the free ends of the hinder extremities, corresponding to the foundation of the nails.

It is not difficult to follow, throughout, the metamorphosis of the horn-layer into feathers, nails, and epidermis.

The feathers first appear as wart-shaped excrescences of the skin, which forthwith take a tufty or hairy appearance. Every such excrescence consists of a soft bolster, which is formed of cells, contains loops of blood-vessels, and is covered by a solid and proportionally thick covering derived from the horn-layer. On treating this latter with water, cells may be recognised on its outer surface. When the excrescence becomes longer, the horny covering acquires a disproportionate thickness. At the tenth day, this covering offers a singular contrast between an inner, solid, and opaque layer, which consists of columns projecting from the vascular axial space, and an outer transparent layer of cells which is loosened by water. Almost always, numerous star-shaped pigmentary figures are discernible in the inner layer; it is only in the quite white feathers that they are entirely absent. This layer, lying next to the vascular stem, is the groundwork of the feather, while, on the other hand, the outer epithelial layer is the basis of the colourless skin, on the rupture of which the coloured feathers come to light.

The commencement of the nails is similar. On the eleventh day the horn-layer is thickened on the points of the toes; and, from the twelfth day forward, one may perceive the separation of this layer into a solid horny layer of nail, and a soft, easily separable covering. Here also a very extraordinary histogenetic contrast is exhibited between the cells of the nail, and those of its tegumentary covering. In the transparent cells of the latter, which are dilatable by the action of water, the nuclei may be seen as proportionally small, solid corpuscles. While towards the sixteenth day the hardened nail-layer exhibits large, transparent, vesicular nuclei, which are surrounded by a dense, finely granular cell-content. In the horny coverings of the foot, in the beak, and in the epidermis generally, the same separation of the horn-layer into two strata may be discerned.

Since the sweat-glands and sebaceous follicles of the mammalian skin are absent from birds, and research on the glands of the rump has hitherto afforded little result, it will require a comparison with the mammalian embryo to decide whether the horn-layer partakes in the development of the cutaneous glands, and is thus, in this additional respect, comparable with the gland-layer of the intestinal tube. (Here a foot-note by the author states, that, in the embryo of the pig, he has seen the sebaceous glands produced from the tubular hair-germs, which are in their turn developed from the deep, pigmentary part of the horn-layer.) But, in any case, these observations now communicated exhibit a novel and surprisingly simple law of development for the higher vertebrata—to wit, a middle layer which developes the nerves and vessels; a central nervous system; and two non-vascular and nerveless outer layers.

[We beg to call the especial attention of our readers to this interesting paper. It appears very probable, that we may look for further researches and observations from the Author on this subject but, even as at present described, there is here much that is both new and worthy of very careful consideration. In future observations there is one question that seems to us of great moment; viz., to which of the layers is the formation of the basement membrane to be allotted. Is it, as research and analogy would hitherto indicate, a confluence of the cells of the horn and mucous layers: or is it referrible to the vessels, and through these to the middle layer?—Ed. *Med. Times.*]

IRELAND.

(From our Dublin Correspondent.)

THE SCHOOLS OF DUBLIN—REDUCTION OF FEES—ALBERT UNIVERSITY.

The newspapers published here on the morning of the 27th of October, contain an announcement to the effect that, in consequence of the extreme depression of the times, the Professors and Lecturers connected with the various medical schools in Dublin had resolved to reduce the fees requisite for attendance on the different courses; that in the School of Physic attached to the University, the fees would in future be three guineas instead of four; and that in the other schools throughout the city, the payments required would be diminished from three guineas to two for each department. This announcement was accompanied by editorial comments as to the liberality and generosity of the course pursued.

Whatever the motives which led to this reduction, it is now an accomplished fact; and it will be well to look steadily at the consequences, which will be important not only to the medical profession in Ireland, but also to that in Great Britain.

It is questionable whether the influence of this reduction in the Dublin School will be confined to the Irish Colleges; it is likely to affect also the English and Scotch Schools of Medicine. In future, gentlemen will be enabled to go through the necessary exercises for examination at the London College of Surgeons and Apothecaries' Hall more cheaply in Dublin than in any other part of the United Empire. Students and their friends will not be long before they discover this; and, to protect themselves, the Schools in London and the provinces will have either to come down to the Dublin standard, or to promote such a Bill for Medical reform, as will render competition of this nature, for the future, impossible.

The importance of this change, however, becomes still greater when it is considered in connexion with the institution of an Albert University in Dublin. It is now nearly certain, that it is intended to form an University in the Metropolis of Ireland, on principles analogous to those of the London University.

The Albert University is to be in Ireland, the University of united education, without distinction of creeds, and wherever this education is obtained it will be recognised. The Dublin School of Medicine will, therefore, stand towards this University in precisely the same relation as the Schools of Cork, Galway, or Belfast. The Board of Colleges have, however, endeavoured to obviate this by the expedient, which we had believed deservedly obsolete, of compelling attendance for one session at either of the provincial Schools. We may be sure that the Albert University will act towards the Queen's Colleges just as the London University does towards King's and University Colleges. If these premises prove correct, Dublin will be the seat of the cheapest Medical School, and the cheapest and most accessible University in the United Empire. How will these things affect the Scotch and London Universities? These are considerations which may very much alter the future relations of medical education.

Lastly, how will these increased facilities of entering the Medical Profession affect the respectability of the Profession and the interests of existing practitioners? These are questions of great importance, but are too complex and intricate to be disposed of in this Article.

Complaints having reached us of the irregular delivery of the Medical Times *in the country by the Booksellers and Newsmen, we state, for the information of our readers, that this Journal is always published early on Friday afternoon, so that it may reach the Provinces by post on Saturday morning.*

Correspondents are requested to address their Communications to "The Editor of the Medical Times, *147, Strand."*

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THE MEDICAL TIMES.

SATURDAY, NOVEMBER 3, 1849.

Two important investigations have recently taken place, arising out of the visitation of cholera—the one, by a Committee of the College of Physicians, the other by the Commissioner of Police. The former was instituted for the purpose of ascertaining if certain fungi, said to exist only in the stools of cholera patients, and in the air and water of infected localities, really had a being; the latter to discover the actual condition of the dwelling-places of a large number of the inhabitants of this metropolis. The Physicians have, according to their printed statement, exposed a great fallacy; the Police have ascertained and published a great fact. The one has conferred a boon upon the scientific world; the other on society in general. The statement having been made, that certain living organisms, only discernible by a careful use of the microscope, were really the cause of so frightful a disease as cholera,—the actual forms of those organisms having been portrayed and published,—the duty became imperative on the first Medical Corporation of this kingdom to verify or nullify the assertion. The College could command the services of the most eminent microscopists—men whose practised eye and profound knowledge of the various living structures rendered them peculiarly qualified for exposing error, or for establishing truth.

Whatever might be the decision at which they arrived, it would go forth to the world with an authority and an influence which the most eminent private individual would fail to command. The College, therefore, by appointing such a Committee, has discharged a duty it owed to itself, to the Medical Profession, and to the public; and we fear the an-

nouncement of this Committee will leave only to the Bristol microscopists the fame of having mistaken substances without vitality for living forms.

It is not for us to say how far medicine would have been benefited if "cholera fungi" had been found to exist. The discovery would certainly have increased the knowledge of the physician, if it had not enabled him to treat the disease with more success—it might have added to the "curiosities of science" without conferring a single benefit on therapeutics—it might have exhibited the indomitable spirit of research which animates the cultivators of medicine, and have left the healing art itself as helpless as before. We speak thus doubtingly because we know that nearly all the Pharmacopœias of the world have been ransacked for remedies with but a small amount of success. Experience has proved that cholera must be combated by other means than those which curative medicine has at its command. This to the modern physician, who has but partially cultivated the science of hygiene, is a very humbling fact; but one which, once taking root in his mind, will spring up and bear fruit which shall be for "the healing of the nations."

The investigations of the Commissioner of Police we now cite, to establish the truth of our assertion. The sergeants of the force, we are informed, reported on the state of 15,010 houses in the metropolis of the *civilized* world. Of this number no less than 12,878 appear as "whited sepulchres," fair in their external aspects, but containing within the elements of disease and death. We are astonished and appalled at the fearful relation in reference to houses whose walls and floors are blackened by the accumulation of dirt—whose air is contaminated by deleterious exhalations from badly constructed drains and gorged cesspools—whose cisterns are stagnant receptacles of a fluid, holding in solution animal and vegetable matters of the most disgusting kind, supplied by "Companies" as pure water—whose cellars are loaded with filth and rubbish, and whose passages are flanked by offensive cloacæ. These are things unobserved by the traveller without, and unheeded by the inhabitant within, but which are injurious to health and the *avant courriers* of death.

We would not have it supposed that the Commissioner of Police have given the sum total of all the nuisances of London in their report; it contains hardly a tithe of them. There are thousands of houses whose wretched external aspects bespeak their condition within; and avarice would have the cry of humanity die away unheeded. Our river, our sewers, our factories, our burial-grounds, our water companies, our houses, are all exerting an influence to perpetuate the existence of cholera, and other direful diseases. Does not the cost of maintaining such a state of things demand their speedy removal? And do not the claims of medical science strongly support such a demand? Physicians are frequently baffled in their attempts to prevent or remove disease, and it is no matter of surprise when they have so many causes in operation to resist their efforts.

As the College of Physicians has disposed of the "fungoid theory," we hope it will now address itself to the great subject of hygiene. It is certainly not beneath the notice of so learned a body, and the discoveries of the Commissioners of Police are entitled to its serious consideration.

OUR SANITARY LAWS.

It is almost a truism, that the household-life of a nation is the proper object of its ruler's study; and that political events derive their importance and significance mainly from the degree in which they, more or less, directly affect the Social condition of the people. Its almost a truism to say, that the fabric of national grandeur requires for its support a like integrity in all its social grades—that the unsoundness of a link must endanger the whole fabric—that the gangrene of the foot must involve the nobler organs—the fate of the plebeian recoil on the patrician, and the lot of the peasant trouble the repose of the king. Yet is the saying, old as it may be, pregnant with deep meaning—that the glance of the Legislator shall fall on the hovel rather than the palace, on the crowded city more than on the solitary hall.

In that remote era, while yet the hum of the populace was undrowned by the patrician murmurs of London drawing-rooms, Lord Brougham made this the theme of one of those splendid speeches, on which will hereafter rest his reputation as orator and statesman. Throwing himself into the subject with all that vehemence and concentrated vigour which marked his early career, the future aristocrat pleaded, in words full of fervour and of pathos, for that large section of the people who suffer all the ills which social organization generates, and taste but few of the compensating benefits which fall on happier citizens. Inspired by the greatness of his subject, the keen politician forgot his politics, the partisan his watchwords, and sinking the partial and the sectarian, in the universal and the national, penetrated, with the ease of genius, to the true end of Government, and to the real object for which society is formed. In words well suited to his weighty theme, the orator showed how political events are often but the consequences of social changes; and political agents often but the blind servants of that mighty current, whose ebb and flow they vainly think to sway. And in words of deep warning and of omen, he urged upon the governors of a nation, who are the physicians of its body corporate, that they should well study the vicissitudes of that imperfect fabric, should save it from the evils which might sap its health, or should seek out the remedies which could heal it.

The history of the last two years has illustrated vividly the truth of these opinions. Everywhere in Europe we have witnessed the transition of social discontent into political insurrection. More or less readily we can trace, in these wild risings of nations against their rulers, the protest which the unhappy make against their unhappiness, the uneasy against their state of pain. The politicians of the day tell us, that these terrible commotions are but the clashings of political principles, or the natural oppositions of lineage and race. But these political ties of opinion and of race are but the emblems and symbols of those deeper and more hidden wants, which those who want seek by their aid to gain. And these wants are, for the most part, coarse and physical, not intellectual and refined. The mass of men are little stirred by the abstract speculations of philosophers, although such speculations may be used for the clothing of some more tangible desires. Personal discomfort and religion are, in these days, the potent spirits which can raise the masses of the world.

In this country, such is peculiarly the case. We owe our late freedom from tumult and social disorganization, chiefly to the comparative ease and comfort which the majority of our English population has enjoyed. The pangs of hunger are not sufficiently sharp, the differences of social position not sufficiently offensive, to urge our peasants to rebel. For with our rich soil, our matchless position, and the endless vigour of our race, we have drawn hither the riches of the world, and the courage of our fathers has long ago won for us the inheritance of personal and individual freedom.

Yet it must be said, that if we owe all to ourselves, we owe little to our Government, except in so far as it has been the administrator of established law and custom. Looking back on the last fifty years, we find the tide of human affairs incessantly rolling on, the social aspect of the country daily changing, fresh elements constantly adding themselves to our intricate civilization; and yet the Government have been invariably the last to recognise the necessity, of foreseeing and providing for the result of the progress which was going on under their eyes, and of directing into appropriate channels the issues of events. Especially has the Government of this country been careless of true social questions. How many years was it before the condition of the Factory labourers could be forced on their unwilling ears? How long was it before the irregularities and manifold hardships of the Merchant, and even of the Royal Navy, could find auditors? To how great a degree have they assisted private enterprise in that most national work of Emigration, the carrying out of which is necessary for our permanent amelioration? How long has it been before the true wants and hardships of the Poor could be represented in high quarters, and meet in those high quarters with sympathy and aid? Yet these and similar questions are of far more consequence than the most subtle deliberation as to how Spain is to be managed, or Sicily assisted, or Ionia quieted. They are of greater consequence than the creation of a batch of Peers, or the bestowal of a vacant Garter. Nay, more, they are of such consequence, that if they are not fully considered, and treated as wisely as may be, we shall, from year to year, perpetuate and permit progressively to increase the evils to which these conditions give rise, until no man can say how deeply our tranquillity and public stability may not be periled.

There is no inquiry which a Government should regard as of higher interest than that which seeks to learn the common, household, daily life of the poor. In what manner do its poor live--how much of happiness and of physical comfort falls to their share—what is their ave-

rage condition of bodily health—what is their moral and intellectual standard? As the poor are without political interest, are for the most part unrepresented in the Press, and are, necessarily, in some sort, at the mercy of those who employ their labour; it is necessary continually to search out the evils which they are unable openly to express, and the neglect or oppression which they are compelled silently to bear. To protect those who cannot protect themselves, to feed those who cannot feed themselves, and to shelter those on whom the storms of Heaven must otherwise beat, are among the objects for which Providence permits Governments to be, and which Christianity imperatively demands from those who would fulfil its tenets.

That our Government has been regardless of many of these important duties is abundantly evident. It permitted children to be crowded into factories until the evil, by its magnitude, remedied itself. It left the youth and the factory woman at the mercy of their employer, until it was at length compelled to assert its right of protector, and to fix the hours beyond which the physical strength of the frame cannot be safely taxed. It allowed the merchant seamen to be affected by scurvy, until the reiterated remonstrances of the sufferers compelled the adoption of those simple rules which in the Royal Navy had been found so efficacious. It disregarded the rapid growth of our large commercial towns, and the natural consequences of the hasty assemblage of masses of men, until the remonstrances of those who knew the inevitable effects of transgressing the most obvious laws of health and life, were seconded by the approaches of pestilence, and the murmurs of a terrified people.

Owing to this want of foresight, we must attribute the fact, that in spite of our numerous advantages; in spite of the efforts of a race above all others industrious and patient, in spite of a political status, which in some respects could not be improved—the condition of the poor in this rich and powerful country, is, despite the rhetoric of historians, no better than was the state of the labouring population three centuries ago. Or, if in some respects improved; if, notwithstanding our deficiencies, the air of heaven does blow more purely upon the inhabitant of Bethnal-green than on the citizen of the old Metropolis; if the polluted water of the Thames is yet more wholesome than the water of the stagnant marshes which formerly engirdled London; if the stench from our factories and cesspools, is less intense than the odour which steamed up from the filthy habitations of our forefathers, with the floors covered with the never-shifted rushes, still no one can deny that the improvement has been by no means commensurate with the progress of an age unusually fertile in mechanical appliances, and gifted with an unprecedented control over many of the forces and powers of Nature. Is it not wonderful, that while our mechanical achievements are almost incredible, while we imitate with electric flash the light of the sun, while we emulate the wind with our steam, and print in one day what Caxton would have accomplished in a lifetime, it should still be possible to draw a comparison between the condition of our labouring class, and of the paupers in the days of Elizabeth?

Nay, more than this; when we glance over the Reports, of Sanitary Commissioners, of inquirers, into infant mortality, or into the health of towns, when we peruse the striking figures of Registrars-General, a more startling comparison cannot fail to arise. When Mr. Simon, in his vivid pictures, strives to bring to the obtuse ears of Common Councilmen the miserable state of the poor in the city of London, or Mr. D. W. Harvey classifies in regular array the nuisances of its 15,000 houses, the student of history cannot but recall those terrible portraits of social discrepancy and distress, which Ammianus Marcellinus, rudely but indelibly, traced at Rome, in the fourth century after Christ. We seem to read again the story of the 42,000 miserable habitations and the 1,800 palaces, of the daily drudgery and the life-long *fête*, of the grinding poverty and the marvellous wealth. We ask ourselves what strange resemblance thus recalls to the Englishman of the nineteenth century the woes and anguish of the Imperial City, with famine in its walls, and the Goth marching to its gates? But a moment's reflection re-assures us; we perceive that the comparison rests but on a single feature, viz., the common suffering. *We* endure evils, it is true; but they are those of neglect, and not of decay; *our* poor suffer, it may be; but the rich are not devoid of sympathy, and do not refuse to extend the rights of citizenship to all. *We* have, thank God, no luxurious patricians, who, from their chariots of silver, or from the midst of their eternal banquets, can throw no glance of pity on the perishing plebeian. On the contrary, we have an active and sympathizing middle class, and an earnest and powerful Press, who are not slow to urge the redress of all wrongs, whether they affect the poor or the rich, the peasant or the peer.

It is the duty, and has been, indeed, the attempt, of this middle class, and of the Press they instigate, to force upon the Government of this country, now as heretofore unwilling to initiate improvement, and ever waiting till the pressure from without forces them onwards, a knowledge of the wants of the poor, and a conviction that provision must at once be made for them. These efforts have been partly successful. The great question of public health has been put before the nation; its infinite ramifications, its all important bearings on the welfare of the community, have been duly acknowledged by the rulers of the State. The State has notified that the poor man is not to be deprived of the conditions of health, of pure air, of good water, of food as wholesome as may be, of the means of personal cleanliness, and of the guides to moral order and intellectual improvement.

So far is well. But the same want of legislative foresight, which permitted the accumulation of the evils, appears likely to impede their removal. Our Government proceeded to this labour of Hercules with the crudest measures and the most imperfect instruments. In the first place, they begged as a boon from opponents a portion of that which they should wholly have demanded as a right. They then crippled their own powers by a careless framing of the legislative expression of their intentions. Finally, they have now risked the whole working of their Public Health Acts by dividing the administration into sections which have no unison and no sympathy with each other, but which, on the contrary, must come into constant collision and disagreement.

Yet, if the public fairly comprehended this question, it is not yet too late to neutralize the evils. In order that it may be comprehended, we shall, in our next Number, take occasion to examine into the results which may be anticipated from the present working of our sanitary laws, and to offer some suggestions as to the proper mode of carrying out Sanitary Reform.

THE LONDON UNIVERSITY AND ITS GRADUATES.

To satisfy the wants of men prevented by scruples of conscience, or other circumstances, from conforming to the regulations of Oxford or of Cambridge, an University, empowered to grant Degrees in Laws, Medicine, and Arts, was founded in the nineteenth century.

The body politic and corporate to which we refer was named "The University of London." At its creation, it was composed of a Chancellor, a Vice-Chancellor, and thirty-six Fellows, conjointly constituting the Senate. Its Charter provides that if, by death or otherwise, the number of the Fellows shall be reduced below twenty-five, the members of the Senate shall, "as soon as conveniently may be," elect twelve "fit and proper persons to be Fellows, so that the number of thirty-six Fellows of the said University may be complete, exclusive of the Chancellor and Vice-Chancellor." The Queen reserves for herself the office of Visitor, the sole right of nominating the Chancellor, and also the power of appointing any number of new Fellows. Thus the Senate may never, if it so pleases the Crown, be called on to exercise its function of self-election. The death of the Bishop of Norwich has reduced the number of Fellows to twenty-seven. An election of new Fellows, by the Crown or the Senate, may, therefore, ere long, be expected. The Graduates of the University of London, it will be observed, are no part of the body corporate. They pay the fees demanded of them, and, after examination, receive a degree. Possessed of the document by which the honour is conferred, they leave the doors of the building, and "The University," composed of aliens by education, knows them no more. By its very constitution it can hold no communication with these Graduates, because, "until incorporated, they cannot, as a body, be technically represented at all." (a) Strange that an Institution, the offspring of liberal ideas in a liberal age, should have a constitution, so far as relates to its Graduates, less liberal than that of Oxford or of Cambridge! The Graduates of the University have, during the last two years, been actively engaged in endeavouring to obtain from the Crown a new Charter, by which they may be incorporated into the University, and be empowered to exercise the function of self-government, by electing, as from death or

(a) See Graduates' Committee Report.

otherwise seats become vacant, the members of the Senate or the Fellows of the University.

A report, lately issued by the Committee elected at a general meeting of the Graduates, informs us that, contrary to what they had conceived to be their well-founded hopes, they have failed in their efforts; and their failure they attribute to the influence exerted by the Senate over the Government. Three objections may be urged to the request of the Graduates to be incorporated into the University:

1. That the body of Graduates is not yet large enough to form a constituency. To this it may be answered, that they are already more numerous than the first Fellows of the College of Surgeons. Three hundred were, in that case, considered by the governing body sufficient to constitute a constituency. There are upwards of four hundred Graduates of the University of London. Nor is there any danger of this number diminishing, as there are about seven hundred under-graduates. It appears to us, moreover, that if twenty-six members of the Senate are considered to be numerous enough to elect twelve new Fellows, then it cannot be objected that four hundred Graduates are too few to form an electoral body.

2nd. That the body of Graduates, although numerous enough, have not yet assumed such literary, scientific, or social status, as the electoral body of an University ought to occupy. But ten short years have passed since "The University of London" sprung into existence; and where are the men on whom it has conferred the honour of a degree? Have they sunk into obscurity, and been seen no more? Of the Graduates in Laws and Arts, those more intimately acquainted with their labours must speak. In praise of the Doctors of Medicine we have no need to speak, our Profession have already spoken. More than a third of the seventy-three Doctors of Medicine have been chosen to fill chairs in the largest London and Provincial Schools, or elected to discharge the duties of Physicians to important public charities. Surely, it cannot be intended by the Senate to affirm, that these men are unworthy to have a voice in the affairs of an Institution, in the well-being and in the maintenance of the honour of which they are so deeply interested. With respect to the Bachelors of Medicine the case is somewhat different. Among them, indeed, are men whose names are favourably known, wherever the branches of science to which they have devoted themselves are cultivated. But the age of the large majority scarcely permits that maturity of judgment absolutely essential, ere the functions to which they lay claim can be exercised with benefit to the University.

3rd. That, as the Government contributes 4,000*l.* a year to the support of the University, that body cannot be expected to resign all supervision over its affairs. This objection, it appears to us, would be well founded, if the Graduates had proposed that the entire management of the University should be placed in their hands; but it is of little force, when it is remembered, that they ask only for *some part* in the management. They state in the Report before us, that they have no desire to interfere with the powers of the Crown as Visitor; and these powers, our readers need not be informed, are pretty extensive. They wish also, that the present Members of the Senate appointed by the Government should retain their seats for life. Moreover, had the Government considered the powers asked for by the Graduates *too* extensive, or the age of those who have not attained the highest honours of the University too immature, (and there may be some foundation for such an opinion,) it might have pointed out to them the objectionable clauses in the draft Charter, and thus have opened the way for an amicable settlement. But, if the Government determine to be still influenced by the Senate, and the Senate, from the above or other well-founded reasons, continue to consider it inexpedient for the present to yield to the unequivocally-expressed wishes of the Graduates, then we would strongly urge on the electing body the propriety of a part of the new batch of Fellows being Graduates of the University of London. It does seem monstrous that one claim to a Fellowship of "The University of London" should be the having graduated with honours in *another* University. For our part, we cannot conceive that men, who, like Taylor and Miller, have been elected colleagues by the distinguished Professors of University and King's Colleges, are unworthy, either morally, scientifically, or socially, to act as colleagues with Ridout and Bacot, Hammick and Billing, or even to succeed Sims and Pennington.

As there are particulars in the present arrangements of the University which we think might be benefited by publicity, and advantages which have accrued to the science of medicine from its curricula, but imperfectly appreciated, we shall take an early opportunity of returning to this subject.

We cannot however defer expressing our satisfaction at the temperate, but yet manly tone in which the Report of the Graduates' Committee is couched, and the wisdom its members have displayed in firmly resisting the attempt to mix the question of admission to the College of Physicians with that of academical reform. Such firmness and unity of purpose must eventually secure for the gentlemen the Committee represent, the privileges to which they aspire.

CHOLERA COMMITTEE REPORT.

THE Report of the Cholera Committee of the College of Physicians, which we this day re-publish, is a document not needing any advice of ours to insure an attentive consideration from our readers. To us it seems a most convincing Report, and refutes on every point the hypothesis against which it is directed. We shall probably return to this subject, after we have seen what answer the defenders of the "Cholera Fungi" can make to the College Committee. We need only say now, Drs. Baly and Gull, and their coadjutors, deserve the thanks of the Profession for the trouble they have taken, and for the ability and good sense conspicuous in every line of their able Report.

DEATH OF MR. MORTON, OF UNIVERSITY COLLEGE.

IT is with most unfeigned regret that we have to announce the sudden death of Mr. Morton, one of the Surgeons to University College Hospital. Mr. Morton died on Tuesday morning, under very peculiar circumstances, having been in perfect health and at the Hospital on Monday. We understand that he got up on Tuesday morning, went down stairs and wrote some letters, and then returned again to his bed-room. An hour or two afterwards he was found dead by his servant. This sudden and unexpected event has thrown a gloom over University College, where the deceased was beloved and esteemed by every one.

REPORTS OF SOCIETIES.

THE MEDICAL SOCIETY OF KING'S COLLEGE, LONDON.

The Introductory Meeting of this Society was held in the Dining Hall of the College, on Thursday evening the 18th October, the President for the ensuing year, Professor Fergusson, occupying the chair. The attendance of members and visiters was numerous. Among them were the reverend Principal, Dr. Jelf; the Dean of the Medical Faculty, Dr. Guy; and other Medical Professors connected with the Institution.

Professor Fergusson, in opening the meeting, thanked the Society for the honour of electing him their President. He trusted that he would on this, as on every other occasion, show the deep interest he took in the welfare of the Society. According to the custom of the Society, he would not detain them long ere he introduced the gentleman who was appointed particularly to address them. He was happy to see around him members of the Society, who had highly distinguished themselves in medical science. To those gentlemen who were about to commence a career which would require all the attention and assiduity of which they were capable, he would say, that medical men could not too early practise themselves in duties to which ordinary medical education did not reach; viz., the art of expressing themselves clearly and advisedly; the knowledge of the various opinions and action characteristic of the medical intellect of this country; and those points of etiquette found to be necessary between professional men, all which they would best acquire in a large Society like the present. The man who gained the esteem of his fellow-students in such a Society would be pretty sure to do so in the still larger community of medical practitioners. He would only add, that he was zealous, as every one connected with it must be, in the interest of a Society which, from the character of its officers and supporters, would reflect honour upon the Institution with which it was connected. The President then announced that notes had been received from the reverend the Chaplain of King's College, and from Dr. Ferguson and Professors Partridge and Bowman, honorary presidents, regretting their inability to attend the meeting; and concluded by calling upon Mr. Griffith for his address.

Samuel Griffith, Esq., A.K.C., Vice-President, read an address, in which, after a few preliminary remarks, he alluded to cholera. He first drew a contrast between the present epidemic and that which occurred in 1832. In many cases the most striking difference was observable in the almost entire freedom from pain and cramps, so general in the previous epidemic, and, in its more fatal character, showing its nearer resemblance to that of India in these respects. From various cases which had come under the author's observation he had been led to conclude that the disease was, under certain conditions, contagious, and that the probable period of incubation was about 2½ to 3½ days. He detailed some cases in which a distinct period of infection had been traced, the patient being seized on the third day. He viewed cholera as specially, if not entirely selecting its victims from among those whose alimentary organs had become vitiated, and vital stamina depressed, and considered that perfectly healthy persons were very

rarely attacked by it; the main predisposing causes being—1st. Want of nourishment, excessive fatigue, hardships, &c., as shown among the poor of London and the campaigning troops in India. 2nd. Ingestion of irritating substances, such as bad food, unwholesome air, and water holding noxious matters in solution, excess of malt and spirituous liquors, &c.; cholera, like typhus, selecting those individuals who are most exposed to such influences, and those localities in which they are most concentrated. In London, there were 2½ millions of cubic feet of ordure exposed to the air, or more than 1 cubic foot per man. 3rd. Existing Diarrhœa. This was, perhaps, the most common predisposing cause. He considered that this is not properly termed a premonitory symptom of cholera itself, otherwise we ought to find two distinct kinds of diarrhœa,—the true choleraic, and that having the characters of ordinary diarrhœa. This not being the case, he thought it unphilosophic to call that a premonitory symptom of cholera, which commonly occurs without ever merging into cholera. In the cholera of India there was generally no preceding diarrhœa; yet the Author considered that the prevalence of intestinal disorder, at particular periods, indicated a connexion not the less dangerous. He supposed that rice-water secretions were present in every case of true cholera, though not always passing by the rectum, as proved by *post mortem* inspection. The circumstances attendant upon the rise, spread, and propagation of cholera, and their bearing upon the question of contagion, were then briefly adverted to. When it attacked a house it invariably ran through all the different families susceptible of its influence, and this the Author exemplified by several cases. He then alluded to Dr. W. Budd's theory of the origin and mode of propagation of cholera by microscopic fungi, and the objections thereto. He thought that, though it was doubtful whether the theory would support future investigation, it would, at least, serve better than any other for the classification of facts. With regard to the treatment, he had found calomel, in large and frequently repeated doses, most successful, accompanied, especially, by mercurial frictions, by which re-action was more rapidly induced, and with less of the mineral introduced into the system. In extreme collapse, large doses of salt and water, sufficient to produce intense vomiting, was the most certain plan of causing re-action. This effect was probably produced mechanically, mainly; perhaps, also, partly by the solution being absorbed and acting on the blood. Salines and astringents were also very useful. He considered it doubtful whether the various plans of treatment, so much lauded, did not owe the greatest part of their apparent efficacy to the diminution of the virulence of the disease in its decline. The author concluded his address with some cheering allusions to the condition, prospects, and intentions of the Society.

S. R. Pittard, Esq., in proposing a vote of thanks to Mr. Griffith, intimated that it was the intention of the Council to collect, by circular, the opinions of the many old members of the Society now practising in the country, and of their professional acquaintance, upon the question of the contagiousness of cholera, and the facts, if any, upon which those opinions are founded. One of the great objects had in view in the organization of the Society was the connexion of a great community of medical inquirers, centering in the Society, and reporting to it objects of interest in medicine. He had remarked, that country practitioners had a far better opportunity of determining the question of contagion, among their scattered population, than those in London, where the population was so much mixed up and in such close intercourse. He considered that inquiries like this were the only way by which the question could be settled. The contagiousness of small-pox, measles, &c., had been determined only by a general feeling, gradually coming on, of the whole body of medical practitioners. He hoped that all present would aid the council in this undertaking. In 1832 he received a powerful impression that cholera was contagious, and he strongly inclined to the belief that *all* contagious diseases were caused by parasitic beings. In one disease, cholera, he thought this opinion was becoming generally received. Understanding that the cholera fungus would be shown under the microscope, upon this occasion, he had brought with him some confervæ as specimens of low vegetable forms. They would be seen to be very different in appearance to the drawings made by Mr. Brittan, which did not seem to him to be those of a vegetable structure. The only things he had seen like them were very minute biliary calculi, and some microscopic sponges.

Dr. Hensley seconded the motion of Mr. Pittard, which was carried by acclamation.

Some experiments were brought before the Society by Mr. Rogers, Civil Engineer, for the purpose of proving the efficacy of peat charcoal, prepared by his plan of compression over a vacuum, as a deodorising agent. Mr. Rogers, after enumerating the various manufacturing uses to which the peat charcoal, so prepared, could be applied, especially its value, from its density and freedom from sulphur and pyroligneous acid, in the manufacture of iron, in founding, and for fuel; and after showing, from its low price, the advantage of so using it, explained to the Society his method of preparing it, and said, that, to the present meeting, the most interesting property of the peat charcoal would be its extraordinary power, and ready application, as a deodorizer and a disinfectant. For the former purpose, he used it continually in his own house, and, by placing it in all the pans and closets, obtained a perfect freedom from effluvia. In hospitals it had been objected, that by its colour it prevented proper examination of the fæces. However that might be, it effectually removes the smell. In fever, scattered over and placed about the body of the patient, it effectually removed, he considered, all danger of infection and disagreeable odour. But the best way to convince the meeting of the latter property, was to show them the effects of the granulated charcoal upon putrid exuviæ. Mr. Rogers then produced separate portions of the granulated charcoal and putrid matter, and mixed them before the meeting, all smell being perfectly removed from the latter by the process. He also showed specimens of the dense compressed charcoal and plans of his proposed method of applying the charcoal, as a deodoriser and disinfectant, to the ordinary method of town sewerage and hospital arrangement.

The Honorary Secretary read over the notices of the Society, and a numerous list of gentlemen wishing to become members.

The President, having returned the thanks of the meeting to Mr. Rogers, vacated the chair.

Mr. Griffith proposed a vote of thanks to the President. Henry Smith, Esq., seconded the motion, which was carried amid much cheering.

Mr. Fergusson returned thanks. They had already experienced the advantage of attending such meetings as this, in hearing an interesting essay from an old student, which would be no small instruction to most persons present. Another subject of great interest, Mr. Rogers's experiments, had been brought under their notice, and the results would illustrate the extreme slowness of the advance of science. That which was at one time considered, as it were, the refuse of the earth, peat moss, would, if Mr. Rogers's views were confirmed, be found to be the most valuable article, perhaps, on the globe. The talented and distinguished nobleman, Lord Ashley, who, he believed, first pointed out, in a prominent manner, its value, had remarked, that if the things said of it were found to be correct, England had within herself more of real value than the gold lands of California. In questioning Mr. Rogers to-night, he found that he (Mr. Rogers) admitted the truth of what Lord Ashley advanced concerning the properties of peat. It was said to be very useful, in preparing bog land, to burn the peat moss, since the resulting ashes were of a very fertilising quality. This had, however, he believed, yet to be proved. These remarks on peat moss would be well illustrated, by a circumstance which occurred in Scotland some time ago, where a gentleman was at vast pains and expense to clear away a surface of bog moss some 12 ft. deep, the land beneath being considered of such value as to merit the enormous outlay. The moss that encumbered the fertile surface was got rid of, in a way Mr. Rogers, he feared, would not approve of, being cast in clods into a neighbouring river, and carried down into the ocean. He doubted not, but that Mr. Rogers might obtain plenty of bog moss, on the cheapest possible terms, by application in those quarters. Mr. Fergusson concluded, by proposing the thanks of the meeting to the excellent principal of King's College, for his company that evening, which was assented to with loud cheering.

Dr. Jelf returned thanks. It was his proud office to preside over six departments of knowledge; with each he endeavoured to be impartial; but none had he greater regard for, nor interest in, than the Medical Department of King's College. The meeting then broke up.

UPON THE REMEDIAL APPLICATION OF BENUMBING COLD.

[To the Editor of the Medical Times.]

SIR,—In taking advantage of the opportunity which you so fairly offer me of replying to the extended criticism in the *Medical Times* of the 6th inst. on the new remedy which I have introduced, I would wish to be as brief as possible; for, as regards myself, I have no wish to prolong the controversy. I have been blamed for entering into this correspondence at all; but I can waive all personal considerations when intent on establishing an important medical truth; and having once engaged in the discussion, I feel myself bound to bring it to a termination. My opponent is a practised and a plausible writer; and his habitual use of the terms of logic might impress the careless reader with the notion that he is a logician, and that his conclusions are in accordance with the logical art.

I am first attacked for not bringing forward other evidence than my own for phenomena said by the critic to be "at variance with older observations." My letter of the 13th referred to this new objection, and perhaps sufficiently; I felt myself compelled, under the peculiar circumstances in which I was placed at the time of writing that letter, to grant this demand of my critic; but in addition to the remarks and the high testimonial it contained, I may now state that the fallacy in the reasoning of my opponent, which I have already more than once commented upon, and which runs through most of his arguments, is here most conspicuous I deny that the phenomena which I describe are at variance with older observations, and that other evidence was necessary than what is commonly adduced by medical writers. I deny that there had been any experience of *short* and *limited* congelation until it was used remedially, or to produce anæsthesia in surgical operations; and it would be an insult to the judgment of the reader again to insist upon the essential difference between the prolonged congelation which causes frost-bite, and the short and regulated application of extreme cold, that furnishes us with, perhaps, the most powerful, and certainly the most prompt and safe antiphlogistic anodyne remedy wherever it can be applied, which we possess. My reliance, besides, on my own observation is complete, because it respects phenomena in which no one can be deceived. If inflammation is *seen* to be *at once* checked by severe cold, and if pain *immediately* and *permanently* ceases under its influence; if, in more than 300 cases, and perhaps a thousand applications of this agent, not the slightest mischief has been produced, or greater inconvenience than a slight redness of short duration, or a slight itching, where can be the danger of mistake, or the need of corroboration? I am perfectly willing to allow, that numberless instances of mistake in the effect of remedies have occurred; the history of medicine is full of such; but these instances, I contend, differed widely in the circumstances which I have mentioned. If truth was the object of the critic's research, why did he not make the little experiment mentioned in my letter of the 22nd ult.; it costs neither much time nor much money. A pennyworth of pounded ice, mixed with half the quantity of salt, and a bit of thin silk gauze to contain the mixture, constitute the whole of the apparatus, and the best, that, in most cases, can be employed to produce remedial congelation or anæsthesia. The application of this frigorific a few seconds to the skin, or until it congeals it, will prove its safety; and, if doubts be still entertained, after the evidence which I have produced, that an application, which will immediately arrest the circulation of blood in a part, and produce local insensibility of some duration, may nevertheless be wanting in remedial efficacy, a trial of it in cases of constant occur-

rence—such as irritable and inflamed sores, pruriginous or impetigenous eruptions, headache or toothache—will satisfy the practitioner on this point, and lead him to more important uses of the agent.

The next article in the criticism is an imaginary history of the suggestion of extreme cold in cholera—which, like most imaginations of the kind, is as wide as possible from the truth. It so happens that the postscript to the letter referred to of the 19th of July, and which postscript, we are told, was written immediately "on the inspiration arising on my mind," was written fifteen days after that letter had been sent to the medical Journal containing it; and it only consisted of a compressed statement of what was previously published through another channel. But to animadvert upon the details of this history or portrait, as it is termed, would be absurd. Suffice it to say, that the fact of the internal administration of ice having been found one of the most successful modes of treating cholera, first drew my attention to [illegible] and the [illegible], having [illegible] in other affections of the stomach somewhat analagous to its condition in cholera, and being convinced that the idea of any efficacious result following the small quantities of ice usually swallowed in cholera must be a mere fallacy, these considerations led me to reflect upon what would be the probable effect of applying cold in an efficient manner. To the laboured accusation in the criticism, that I have attached undue importance to the beneficial results of this practice, in the two cases in which I had an opportunity of trying it, I think it a sufficient reply, to quote the opinion which I have expressed in the paper furnishing these practical details,—that, however severe cold may be recommended by theory or analogy, "the true value of the agent can only be determined by numerous trials."

The critic next comments upon what he affects to consider as quite a discovery to him, viz., that it is only the short and limited application of severe cold that I advocate. This qualification, he says, is satisfactory, and "if it had been all along in the author's mind, he must have taken much pains to conceal the expression of it in some corner, probably, of his pamphlet." These remarks scarcely require an answer, and yet they are a fair specimen of this criticism of the *Medical Times*. Whoever has read any of my several Essays, or communications, on benumbing cold, knows, that every page or paragraph contains something having reference to this great essential of the remedy, its short and limited application. In the several cases of inflammatory or neuralgic disease treated by congelation, and related in my pamphlet, it rarely happens that the precise period of application is not mentioned; and in the introduction to that Work there occurs this passage:—"A person exposed to intense cold in a severe winter, or high latitudes, and a person exposed in a manufactory to the fumes of mercury or arsenic, are both exposed to danger. Powerful agents are operating upon them uncontrolled. But if the intense cold be limited in duration and extent, and small quantities of the mercury or arsenic be exhibited in the form of blue pill, or Fowler's solution, instead of being hazardous to life, they will constitute valuable remedies." And the opening passage of the first communication which I sent on the subject to a contemporary medical journal, is as follows:—"Many powerful physical agents which are destructive when they act in an uncontrolled manner on the human body, become remedial when they are regulated and applied under appropriate circumstances—excessive heat," &c., &c. —*Medical Gazette*, December 1, 1848. But this is not the lowest depth of error into which our critic falls by his pretended discovery. Let me ask him what agent, natural or artificial, has ever yet been used remedially without limitation or control? And whether it is incumbent on the practitioner who tells us that he has used prussic acid, or mercury, or arsenic, or bleeding, or heat, or cold, in any specified disease, to tell us at the same time that he has used them under certain limits or conditions, in order to prevent our falling into the mistake that he employs them without regard to quantity or time? Does not the very phrase remedial use necessarily imply the regulation of such circumstances?

"The Profession at large," says the critic, "stand aghast at Dr. Arnott's statements; and without corroboration will remain incredulous." Such of the Profession, as with the critic, cannot discriminate between regulated and uncontrolled congelation, may well stand aghast; but this number must be very small. I suspect that our critic constitutes the whole. He, no doubt, would stand equally aghast at the proposal to use electricity in medicine, because persons have been killed by this agent in thunder storms. Some of the Profession may indeed be surprised to learn, that an agent which has hitherto been only known as a cause of disease, should constitute a powerful and extensively applicable remedy; but their surprise will cease upon the reflection, that such has been the history of the best remedies we possess, which were, generally, only known as poisons or as otherwise injurious, before they were employed as remedies.

After these observations follow a series of defences of certain arguments (for some he has wisely passed over, as being utterly indefensible) in the critic's first communication, which I briefly commented upon. Whether he has succeeded in his defence, the reader, if he cares about it, can judge by referring to the earlier papers. The fallacy of not discriminating between short and unlimited congelation, pervades and vitiates the whole of the arguments now referred to. I suspect, that the subscribers to the Journal will "stand aghast" at such an amount of error in their professional guide.

The next assault is in consequence of my having expressed the sentiment, that it was wrong to limit the degree of cold in remedial applications to the freezing point of water. That a critic who stands aghast at the application of extreme cold, because it does not occur to him, that it must be limited or regulated, should be "astonished" at this sentiment, is not at all to be wondered at. I have doubt, however, that his astonishment will be participated by any reader of his criticism. If a remedial agent produces only a limited amount of good in a certain dose; and if there has been no experience of its use in larger doses, (which is strictly the case in the instance in question,) what is there astonishing in the supposition that a greater dose may possess greater power and remedial efficacy. Most medicines have been given in increasing doses till the proper limit has been ascertained; and often, as in the instances of quinine, antimony, and mercury, the larger doses have not only had more powerful, but very different effects. The never-avoided fallacy of not discriminating between short and prolonged congelation, has again led the critic into this strange error. Has it not, besides, been almost established as a principle, that, in the treatment of cholera, medicines must be exhibited in larger doses than usual; as in the instances of acetate of lead and the kindred remedy nitrate of silver, used, apparently with great advantage, during the prevalence of cholera in Paris, by M. Barth, of the Salpetriere?

The criticism concludes with the statement that I assert, because it is occasionally allowable in severe cases of diseases to employ remedies in some degree hazardous, that it is allowable to administer frigorific mixtures in cholera, notwithstanding their danger. I assert, on the contrary, and very explicitly, that my use of the frigorific in analogous cases, as well as in the two cases of cholera related, had proved that this remedy is not dangerous. But, I say again, granting, (for the sake of argument,) that the exhibition of frigorific draughts in cholera was to a certain extent, dangerous, does the critic mean to imply, by his phrase of "two blacks making a white," that it is not allowable, under certain circumstances, to use severe remedies. Is the trepan, amputation, lithotomy, or the free exhibition of opium, or the practice of profuse bleeding, free from danger?

I am, Sir, your most obedient servant,

Brighton, Oct. 20, 1849. JAMES ARNOTT.

[We have printed Dr. Arnott's communication, with the exception of a few sentences of a personal character unconnected with the subject; and, passing by all extraneous matter, proceed to apply ourselves to what remains of his arguments.

The matter of fact, on which the Doctor dwells so triumphantly as a gross logical mistake on our part is the neglecting to observe, that it is not a prolonged but a short application of a zero-cold to the stomach which he recommends in cholera. Thus bad reasoning, according to Dr. Arnott, signifies a difference with him in opinion as to a point of fact. But we still differ with him as to this fact: we affirm that he nowhere, in the communications that we commented on, and which bore to be his first and only intimations regarding the use of extreme cold in cholera stated within what limits it should be kept, up to the time when we extorted a vague limitation from him What he said elsewhere, when speaking of other diseases, and of its external use in the way of experiment, we have nothing to do with. The question between Dr. Arnott and ourselves never extended beyond cholera. We never commented upon his use of benumbing cold in other diseases—we never admitted that he had proved its safety and utility in any. In proposing a zero-cold to the stomach in cholera, at a time when the pestilence was unhinging men's minds in so many localities, he was not entitled to assume the universality of his writings, and that every one who met with his proposal had read his previous papers. We blamed him for extolling in unmeasured terms of panegyric, and without any mention of precautions, a remedy against cholera he had tried imperfectly in only two cases. But, the idea of limitation is nugatory—we have admitted his plea gratuitously. Dr. Arnott, in fact, makes no real limitation up to this moment. Let any one read his pamphlet, and other numerous papers on this present hobby, and it will be seen that the whole spirit of these is to inculcate that cold, as a remedy, cannot be applied too unsparingly. What he means by limitation is, that he does not include in his encomiums on cold, any immediate proposal to send patients to winter unsheltered in Spitzbergen or Nova Zembla. In short, he thinks he limits the use of extreme cold, because he advocates its local application. When we forced him to say, that he only advocated the short application of his remedy, we sincerely believed that he had some definite ideas as to the time during which it might be safe to keep a living part at a zero-temperature. In this, it appears, we were mistaken. He will condescend to no explanation of what he means by "short," except in what he says of an experiment which can have no reference to the stomach. We find nothing to contrast with the term "short" in his lucubrations, but the period of a Spitzbergen writer. We shall quote the passage which he gives, as indicating the strictness of his limitations, and our absurdity, in assuming that he made no distinction between what he considered a remedial degree of cold, and that which will produce frost-bite. "A person exposed to intense cold in a severe winter, or high latitudes, and a person exposed in a manufactory to the fumes of mercury or arsenic, are both exposed to danger. Powerful agents are operating on them uncontrolled. But, if the intense cold be limited in duration and extent, and small quantities of the mercury or arsenic be exhibited in the form of blue pill or Fowler's solution, instead of being hazardous to life, they will constitute valuable remedies." We quote another passage—and there are many similar in his papers—to show how he carries out the idea of limitation in extent and duration:—"The question is interesting, What would be the effect of actually freezing the uterus in the state of hæmorrhage now under consideration? This could not be effected by ice, as the above gentlemen suppose, but it might be frozen by a frigorific mixture *of thirty or forty degrees lower temperature, abundantly applied.*" (a) We are disposed to infer that Dr. Arnott disbelieves that any degree of local cold can produce frost-bite. We recommend him, with as little delay as possible, to enlighten the surgical world on this subject.

We remarked before, on Dr. Arnott's frequent use of the "*ipse dixit*" as a proof. In his letter, contained in our present Number, it figures more prominently than ever. He admits, that the history of medicine is full of mistakes as to the effect of remedies; but we get nothing more than his "*ipse dixit*" in proof that there is no such danger in this case. We fear we may strive in vain to cure him of the use of this kind of evidence, it seems so natural to him.

"Chassez le naturel, il revient au galop."

The strength of this kind of "*naturel*" in his character is even amusing. He so stands upon his solitary word being taken, that he thinks it necessary to apologise for having quoted Dr. Graves, as affording his testimony to the efficacy of benumbing cold applied externally on two occasions. We assure Dr. Arnott, this is the kind of confirmatory evidence the members of the Profession are desirous to obtain. But such a plan is sadly against the grain with

(a) *Lancet*, July 21, 1849.

Dr. Arnott. He must have interdicted the interference of those friends who have so often witnessed his use of benumbing cold both internally and externally; otherwise, surely by this time some of them would have come to the rescue and backed his testimony. It is plainly, however, a point of honour with him to have his solitary word believed. This passion even leads him into a new error of logic. He charges us with a want of love of truth, because we have not made trial of benumbing cold either on our own persons or on our patients. Now, this exactly touches the point at issue between us. We say, Dr. Arnott has not afforded sufficient evidence to induce us either to employ the remedy ourselves, or to advise our readers to use it, because, for anything we yet know to the contrary, it may be productive of great mischief. We are almost tempted to complain of the Doctor's thickheadedness—apparently he cannot be made to comprehend why we should ask stronger evidence in favour of the safety of introducing snow and salt into the stomach, than for the harmlessness of applying cotton-wool to a burn. Were cotton-wool proposed at this moment, for the first time in the treatment of burns, we should proceed at once to try it on the next opportunity, without asking for more than a simple "*ipse dixit*" from Dr. Arnott, or any one else of his respectability. We wish the Doctor would try to understand, why the proposal of snow and salt lies in a different predicament. But to our charge. In asking us to make the experiment, after all the discussion that has passed between us, he is plainly guilty of a "Petitio principii." For this discussion would plainly deserve the name of vain disputation if his object were not to persuade us to the trial, and our object to resist the trial till further evidence of its safety be produced. If the Doctor succeed in persuading us to swallow some ounces of snow or pounded ice, seasoned with twice as much salt, no better evidence of its safety being afforded than he has yet supplied, we promise him, as our rustics say, to eat him without salt.

The Doctor is a great master of what logicians call the "*ignoratio elenchi.*" The original question between us referred exclusively to the application of benumbing cold to the stomach in cholera. The argument that runs through his present communication stands thus—Because he has proved the utility of a zero-cold in other diseases, therefore it is illogical in us to deny his affirmation, that such a cold is a remedy in cholera. When we compliment him on his skill in this form of thought, perhaps he will discover himself to be in the like predicament with the worthy man who found that he had been speaking prose all his life without knowing it.

As the Doctor is jealous of any of his arguments remaining unnoticed, we shall hazard a remark on what he seems to consider a flagrant instance of our deficiency in powers of reasoning. We concluded, just as naturally as logically, that a postscript written to a letter, without change of date, was written at the same time with the letter, whereas it appears, to our confusion, by the Doctor's account, that the postscript was added fourteen days after the letter. To make this discovery, it was not logic that was required, but "clairvoyance."

We are not in the least apprehensive that our readers will withdraw their confidence from us on account of Dr. Arnott's reply, or that they will stand aghast at the amount of error detected, by his showing, in their professional guide. We entertain no ill-will against the Doctor—we respect his name, and sincerely wish he may not prove in error as to the beneficial effects of benumbing cold; but, as journalists owing a duty to the Profession, we must vindicate our title freely to canvass the proofs offered in behalf of novel remedies, above all, when these may be reasonably considered to be of a dangerous character—and in a publishing age, like the present, we feel assured, that no lessons are more necessary than those which serve to determine the proper kind of evidence on which new discoveries should be listened to. Witness, in this place, the recent instance relative to the discovery of choleraic fungi, which, we believe, we were the first to disclaim, and which the Report of the Cholera Committee, given in our present Number, sets at rest. Hebdomadal medical literature, as it brings with it many advantages, so, unless very carefully directed, has some drawbacks; and, among the latter, is the too great facility it affords to the publication of rash proposals. That Journal, then, surely deserves well of the Profession, which strives, even at the risk of occasionally hurting self-love, nay, of retarding for a little the reception of truth, to preserve its page from becoming subject to the reproach of being

"Tam ficti pravique tenax, quam nuntia veri."]

MR. LAFARGUE ON CHOLERA AND ITS TREATMENT.

[To the Editor of the Medical Times.]

SIR,—While forwarding the reports of cholera cases that have fallen under my notice, I send the following remarks, which, if you think worthy, may find insertion in your excellent periodical. Previously to having personal experience in this dire disease, from what I had read and heard, I considered it in the light of excessive diarrhœa, yet a disease *sui generis*, and not contagious; therefore, my treatment accorded with such opinion, viz., calomel and opium and cretaceous mixture, combined with kino and capsicum. After seeing a number of cases, I became convinced that cholera was contagious, and that diarrhœa, however severe, and malignant cholera, were two very different and distinct diseases. Probably most of my professional brethren, especially those who have seen much of the late epidemic, are now of this opinion. Doubtless, diarrhœa predisposes an individual to contagion, by lowering the nervous energy, and thus disenabling the system to withstand the influence of the choleric poison. In my practice I have found these remedies, which we usually find so beneficial in the diarrhœas common to this country, of but little use in malignant cholera. Of the thirty-two cases reported by me, sixteen were treated with calomel and opium and cretaceous mixture, combined with capsicum, ammonia, and compound kino powder. Of these nine died and seven recovered. Thirteen were treated according to the saline method, viz., pot. chloras, sodæ sesquicarb., and sodii chloridum, without the addition of magn. sulph. Of these two died and eleven recovered. Two were treated with sol. ant. pot. tart., and laudanum. One died and one recovered. One treated with ether and laudanum died. In all these cases friction, warmth, mustard cataplasms to abdomen, were used with much advantage in some; terebinthenate enemata without benefit; and two were bled also without benefit. This table, though, of course, very limited, decidedly favours Dr. Stevens' plan; but when all the reports have been sent in and well sifted, a juster knowledge of the treatment to be adopted in malignant cholera will be attained. It has also struck me, that, at the commencement of the outbreak in this parish, nearly all the cases terminated fatally, no matter what the treatment. As the epidemic gradually abates and leaves us, but few fatal cases occur? How are we to account for this fact? Is the malarious poison, whatever it may be, gradually wearing itself out, to become extinct? Or has some change taken place in the atmosphere unfavourable to its existence?

I must confess my treatment has been somewhat empirical. Surely, the saline plan, of which, of course, from experience I entertain a very favourable opinion, does not benefit by merely resupplying the circulating fluid with water, and its lost saline particles. It seems sometimes to act too quickly for that; for, in two very severe cases, a teaspoonful of table salt in warm water, after being swallowed instantly, stopped vomiting, and a third similar dose apparently promoted the commencement of the reaction that led to recovery, and this favourable change took place ten minutes after swallowing the first dose. Much appears to remain yet undiscovered by our professional researches into the origin, pathology, and treatment of this devastating disease. Can malignant cholera generate itself or be generated in temperate climates under any favourable combination of circumstances, as filth, warmth, moisture, with peculiar atmospheric change, causing loss of power, of splanchenic, and diminished respiratory and cutaneous action? Or does it solely originate from a peculiar concentrated malarious poison, emanating from certain tropical *loci*, thence spreading its death-carrying fomites in stated directions, under favourable atmospheric conditions? These and other more important queries remain yet to be solved. I read in the *Medical Times* that the bis. of carb. has been used by Dr. Hastings with great success. What is the *rationale* of this treatment? Doubtless, if really valuable, we shall soon hear more of its remedial and curative powers in your periodical.

I am, Sir, yours sincerely,

RT. LAFARGUE.

ST. GEORGE'S HOSPITAL.

[To the Editor of the Medical Times.]

SIR,—"A Student of St. George's Hospital" has, in your periodical, complained of "not being permitted to examine cases of syphilis, and others occurring in the female wards, which require a private examination."

I beg leave to answer—

First. That St. George's is not a hospital into which syphilitic cases, as such, are admitted. If he wishes to see them, why does he not go to the Lock?

English hospitals are, thank God, unconnected with the Government. They were founded and endowed, not as medical schools, but as refuges for the sick, and, therefore, the sick in them must be respected.

Next, he adduces the privileges of the American students in Paris; but nine-tenths of these come there with a diploma of some sort or other. I state this from my own experience, as a member of the Parisian Medical Society, in the Rue Racine, to which almost every decent American student belongs.

But even if your correspondent had the same standing as they, and the *prestige* of a foreigner to boot, will he dare to compare the women of the middle classes, whom he will find in St. George's, with those of the Parisian hospitals? or does he actually intend to put syphilitic cases on the same footing with the diseases of modest women? And, after all, does he fancy that, in three Continental hospitals out of four, he would be allowed to inspect these cases thoroughly anywhere but at a private "*cours*"? Unless he did—what he ought to be obliged by law to do at St. George's—to become a dresser and a clerk?

By taking that honourable trouble, he would save each woman the insult of the presence of some twenty boys, cutting their jokes, or, at least, making audible remarks, on the disease, which she endeavours to hide, with at least a remnant of womanly modesty. He will save her the torture of some twenty successive unskilful applications of the speculum, repeated until the whole class shall consider themselves perfectly *au fait* on the state of her os uteri. He will not outrage that respect for common decency and delicacy which young students too often throw aside, till they find it necessary in after years, for their own manhood's sake, to recover it. And when he has, by thus attending women with his physician, gained a little experience, let him take, as he easily may, midwifery cases, &c., from some Dispensary; let him get a character for kindness and skill among the poor, and I will engage that he shall see enough to teach him all he needs, without subjecting any woman to unnecessary shame, merely for his own private interest.

I remain, Sir, your obedient Servant,

AN OLD STUDENT OF ST. GEORGE'S.

MEDICAL NEWS.

ROYAL COLLEGE OF SURGEONS.—A numerously attended meeting of the Fellows of this College took place on the 1st inst., in the Theatre of the Institution, to elect two Members of Council to fill the vacancies occasioned by the resignation of Mr. Richard Welbank, and the lamented death of Mr. Aston Key. The President commenced the proceedings by stating the object of the meeting, and calling on the Secretary to read the names of Fellows from the Chronological List, when that of Mr. George Pilcher, of Great George-street, Westminster, having been announced, Mr. Thomas Bell, seconded by Messrs. Kiernan and Selby, rose and proposed him as a fit and proper Member for a seat in the Council. The next name proposed was that of Mr. John Bishop, of Bernard-street. Mr. Guthrie, the late President of the College, stated, that he had known Mr. Bishop upwards of twenty years; that he had great pleasure in proposing him as a gentleman well qualified for a seat in Council; and that, if elected, he was sure the gentlemen supporting him would not regret it. Mr. Guthrie was followed by Messrs. Wormold and Hancock, who expressed the pleasure they had in seconding the nomination of Mr. Bishop. The names having been suspended, the Fellows proceeded to ballot. The numbers were, for Mr. Pilcher, Ayes 67; Noes 41. For Mr. Bishop, Ayes 89; Noes 23. The President then declared Messrs. Pilcher and Bishop duly

elected members of the Council of the Royal College of Surgeons.

OBITUARY.—At Clapham, aged 65, Edwin Tipple, Esq., Surgeon, late of Mitcham, Surrey.—On the 12th of June last, at Sydney, New South Wales, after a few days' illness, John Loftus Hartwell, Esq., Staff-Surgeon, 2nd class.

KING'S COLLEGE HOSPITAL.—Last week a meeting was held in the Board-room of the above charity in Portugal-street, Lincoln's-inn-fields. Some interesting details were given relative to the pestilence which has so lately passed over the country. It appears, that from the commencement of the disorder, the hospital was open to all patients, and as the epidemic increased, the medical staff, both for daily and nightly attendance, was augmented, the nurses of the establishment doubled, and every means taken, not alone to relieve the afflicted, but to investigate the disease itself. Out of 123 cases of decided cholera, during the height of the disease, 83 yielded to medical treatment (the patients being discharged cured,) while the fatal cases were confined to half that number; the majority of the deaths were among the earlier patients, the course of treatment eventually adopted having had the result of rendering the fatal cases extremely rare. The diarrhœa patients numbered many hundreds, and the treatment was invariably attended with the greatest success. The expenditure of the hospital during the quarter was 795*l.* 6s. 6d., while that of the corresponding period last year did not exceed 550*l.* The large addition to the number of nurses, &c., caused this increase of expenditure, and it was decided that an appeal should be issued to liquidate the debt incurred under such urgent and peculiar circumstances.

CHAIR OF SURGERY, TRINITY COLLEGE, DUBLIN.—Dr. R. Smith, author of the work on injuries of the joints and of the Monograph on Neuroma, was elected by the Board of Trinity College, Dublin, Professor of Surgery in the School of Physic, on the 19th ult.

SCHOOL OF MEDICINE OF THE APOTHECARIES' HALL OF IRELAND.—Dr. Corbett has been elected by the General Council of the Apothecaries' Company Professor of Anatomy, in place of Dr. Alcock, appointed to Queen's College, Cork.

DR. MACKENZIE has been appointed one of the physicians to the Kelso Dispensary. The vote, in accordance with which he was appointed, is rather singular. "The meeting" (of the Governors) "return their thanks to Dr. Mackenzie for the offer of his services, and are happy to avail themselves of his professional abilities in carrying out the benefits of the charity, and appoint him one of the physicians of the Dispensary. (Signed,) WILLIAM SMITH, President."

THE CHOLERA.—From the Registrar-General's Return this week, we find that the cholera may be considered as almost extinct in London, only twenty-five deaths being recorded from this cause. The general mortality is also considerably below the average, there having been only 902 deaths from all causes, the average of five autumns being 1162. From the provinces we also learn that the cholera is rapidly declining, and, should this favourable state of things continue it will soon have passed away.

REMUNERATION BY INSURANCE OFFICES TO MEDICAL REFEREES.—This much-vexed question seems fast settling into a recognition of the fair claims of Medical men. "The Royal Insurance Company" (of Liverpool and London) announce, in our advertising columns this day, their readiness to allow a fee to any Medical man who may be referred to in the establishment of a policy. They will, no doubt, find this to be a move in the right direction If "honesty" be "the best policy," liberality is no less so.

ROYAL POLYTECHNIC INSTITUTION.—We trust our readers occasionally frequent the Polytechnic. We know no more agreeable or useful mode of spending an otherwise unoccupied hour; and we would assure those who have not visited the Institution,—if, indeed, any such there be, that, whatever may be their tastes, and whatever branch of science they may cultivate, they cannot fail to find much both to amuse and instruct. To young people especially must Mr. Ashley's lectures on chemistry be very interesting. They explain many facts of daily occurrence, which are passed over almost unnoticed on account of their familiarity, but the knowledge of which is, nevertheless, fraught with wondrous import and lead the inquiring mind from Nature up to Nature's God. Dr. Bachnoffner's lectures on electricity are well worthy attention; and the gigantic power of the machinery with which he illustrates his subject cannot fail to excite the most intense interest.

THE KELSO BOARD OF GUARDIANS.—A writer in the *Kelso Mail*, alluding to a paragraph contained in a recent Number in this Journal, headed, "Spirited conduct of Parochial Medical Officers at Kelso," makes a great deal of a trifling error it contained, and which he parades before the little world in which he lives, as an illustration of the confidence to be placed in our statement. We plead guilty to the error we are charged with—the mere interpolation of a word. The parsimony of the Kelso Board is still most glaringly displayed. A fearful pestilence, devastating the land, broke out in Kelso, and the Board of Guardians assuming the functions of a Board of Health, without the least claim or qualification for the office, determined to carry out a similar principle in its subordinate appointments. It would appear that the system of house to house visitation, the discontinuing of which was lately reprobated by us, was not effected by means of medical men, but by working men, who, according to the *Kelso Mail*, though very respectable persons in their stations, did not possess the necessary knowledge of medicine or medical subjects. It was partly on the *dicta* of some of these, opposed to the opinions of the medical staff, that the house to house visitation system was done away with. Can there be a doubt, that these Kelso Guardians were more anxious to enjoy authority and patronage, than to serve the public? We do not for a moment believe that in any other town, city, or village, were working men, totally unacquainted with medicine or with medical subjects, appointed to so onerous and so responsible an office. Parsimony generally marks the conduct of Parochial Boards with regard to medical matters. It remained for the Kelso Board to exhibit it in a very glaring manner by the proceedings to which we have alluded, and subsequently by the indecent haste with which they removed their visiters when the disease began to decline. We fear that the detection of the very pardonable error we committed in our account of the proceedings of these guardians has not placed them in a better light; on the contrary, it has shown that their conduct has been throughout consistent, but consistent in wrong-doing. They commence by insulting their medical officers, by giving them working men as assistants to trace the disease in its earliest stage; and they conclude by still further insulting them by preferring the crude opinions of working men as to the necessity for their continuing in office, to the enlarged, and comprehensive, and philanthropic views of the Profession. It is to be regretted that cobblers will not stick to their lasts.

MEDICAL OFFICERS AND BOARDS OF GUARDIANS.—On the 22nd ultimo we reported in the *Medical Times*, a case partially tried in the Cheltenham County Court on the previous Tuesday, wherein Mr. J. Hyett, a late medical officer to the Cheltenham Union, brought an action against the Guardians to recover the balance of an account due to him for extra medical attendance, amounting to 13*l.* 1s. 6d. The action was defended, and the jurisdiction of the judge, Mr. J. Francillon, objected to, on the ground that, as a Justice of the Peace for the county, he is, *ex officio*, a Poor-law Guardian, and therefore one of the defendants in the cause. His Honour over-ruled the objection, and would have heard the case at the time, except that an adjournment for a month was agreed to by the professional men engaged on either side. The case came on again on Tuesday last, when it was announced that the attorney for the defendants, with the consent of his clients, had moved a judge in chambers, Mr. Justice Talfourd, for a writ of *certiorari* to remove the case into a superior court. Affidavits were made in support of the application setting forth the grounds upon which it was made, namely, the peculiar position of the district judge. Justice Talfourd ordered a writ to issue within a fortnight, provided the defendants paid the plaintiff all costs incurred up to that time. A copy of this order had been served upon Mr. Francillon; but, in remarking upon it on Tuesday, His Honour said, such an order was no prohibition to him, for no writ was actually issued, nor was the order addressed to him. It deserved, however, to be treated with respect as coming from a judge of a superior court. Mr. Pruen, the plaintiff's attorney, said he must ask for another adjournment of the case for a month, in order to see whether the defendants would pay the costs with a view of taking the cause into a superior court. His Honour granted the adjournment. Should the case be removed by *certiorari*, it will be tried at the Gloucestershire Assizes in March next and, should the plaintiff win the day, the costs to the parish in disputing a just claim of 13*l.*, will be little short of 100*l.* It is expected that the district auditor will refuse to pass such an account; at least it will cause much dissatisfaction amongst the ratepayers.

YELLOW FEVER.—A Commission of Army Medical Men has been sitting for some time collecting evidence, and examining witnesses, respecting the nature, progress, and treatment of this formidable disease. Very absurdly, the inquiry appears to be limited to Medical men connected with the Army; whereas, those employed in Her Majesty's ships of war, more especially those who have served on the African coast, could furnish important information. We trust the inquiry will be further extended, and medical men engaged in civil practice on the coast of Africa and in the West Indies, be also applied to for the results of their experience. Then, and then only, can a satisfactory conclusion be otherwise.

THE EDUCATION OF IDIOTS.—An excellent lecture upon this very important and interesting subject was lately delivered at Brighton, by Mr. Levison, Surgeon-Dentist. Mr. Levison stated that idiots were brought into the world with defective mental capacities—often with imperfect external senses, and with malformed bodies. To aggravate their misery, they had heretofore been abandoned, as if altogether incapable of being improved, either physically, morally, or intellectually. But this fatal doom, he said, resulted from an ignorance of organic laws, and because it was not known that improvement could with certainty be calculated upon. He should, therefore, have the satisfaction of submitting to them important facts, to prove that the defective powers of the unfortunate beings for whom he pleaded, could be improved; that in scarcely any case would there be an entire failure, whilst in most instances there would result a great amelioration. This problem, he said, had been triumphantly solved in France: that lately an institution for the education of the idiot had been established in this country, and so far it was found that the system answered extremely well. To confirm these statements, Mr. Levison submitted a number of anatomical and physiological details, showing that data existed to prove that the brains of partial idiots indicated relative but not absolute deficiency; that in the lowest organizations, the poor beings could distinguish relatives from strangers, particular kinds of food, and also different places, which proved that they possessed certain perceptive faculties, such as individuality, form, size, &c., which, when trained according to the system he should explain, would enable them to acquire a knowledge of written signs and oral sounds, and thus learn to draw, to write, and to read. Mr. Levison practically illustrated his views by the history of several cases of training under the system he advocated; he showed the happiest results arising from it, and received a vote of thanks from a highly attentive and respectable audience. We sincerely trust that the matter brought thus prominently forward, and backed by an Institution for the education of idiots, will receive the cordial and effective support of a generous and philanthropic public

COST OF EPIDEMICS.—The cholera has, it is said, cost the ratepayers of the metropolis for medical attendance, medicine, funerals, &c., 200,000*l.*, besides an annual cost, for some years to come, at the least, of from 15,000*l.* to 20,000*l.*, for the maintenance of the widows and orphans of those now no more. Now, to what immense advantage (says the *London Observer*) could a moiety of this large amount have been applied, if the authorities had taken warning by the former epidemic in 1832, and the ravages which typhus, small-pox, and other zymotic diseases, are constantly producing, and had directed their attention to the sources from whence the expenses had arisen. Had but a tithe of this sum been used for sanitary purposes,—had the state of the labouring, hard-working, but too frequently starving artisan been looked into,—had his miserable hovel been changed to a comfortable dwelling, after the plan of the model lodging-houses,—had he had a sufficiency of pure water for drinking, and to wash away the dirt consequent upon his avocations,—we should say we should not have had this enormous amount to defray, nor should we have had, as it were, to pass through the "valley of the shadow of death." In improving and aiding the poor, we are benefitting ourselves, for we increase largely our own chances of life, and, at the same time, save our money.

ALLEGED BURYING ALIVE.—In the midst of exaggeration and invention, says the *Quarterly Review*, in its last number, there was one undoubted circumstance which formerly excited the worst apprehensions—the fact that bodies were often found turned in their coffins, and the grave-clothes disarranged. But what was ascribed, with seeming reason, to the throes of vitality, is now known to be due to the agency of corruption. A gas is developed in the decayed body which mimics, by its mechanical force, many of the movements of life. So powerful is this gas in corpses that have lain long in the water, that M. Devergie,

the physician to the Morgue at Paris, and the autho of a text-book on legal medicine, says, that unles secured to the table they are often heaved up an thrown to the ground. Frequently strangers, seein the motions of the limbs, run to the keeper of th Morgue, and announce, with horror, that the perso is alive. All bodies, sooner or later, generate gas i the grave, and it constantly twists about the corp blows out the skin till it rends with the distensi and sometimes bursts the coffin itself. When th gas explodes with a noise, imagination has convert it into an outcry or groan; the grave has been r opened; the position of the body has confirmed th suspicion, and the laceration been taken for eviden that the wretch had gnawed his flesh in the fren of despair. So many are the circumstances whic will occasionally concur to support a conclusion tha is more unsubstantial than the fabric of a dream.

METEOROLOGY OF THE WEEK.

Day.	Mean of Barometer.	Mean of Thermometer. Dry.	Ditto. Dew Point.	Difference between the Mean Temperature of the day and the same day on an average of 7 years.	General Direction of Wind. A.M.	General Direction of Wind. P.M.	Amount of Horizontal Movement of the Air. Miles.	Rain in Inches.	Electricity.*
Sunday	29·741	50·9	47·7	+ 4·4	S.W.	S.W.	90	0·17	Nothing.
Monday	29·532	52·4	48·8	+ 6·4	S.W.	S.S.W.	135	0·02	Nothing.
Tuesday.....	29·987	53·1	52·2	+ 12·6	S.W.	S.W.	165	0·00	P. & ten. variable between noon & 3 p.m.
Wednesday.	30·004	57·4	53·5	+ 10·6	S.W.	S.W.	125	0·01	Nothing.
Thursday ...	29·530	56·9	52·9	+ 12·2	S.S.W.	S.W.	140	0·05	N. and active at noon.
Friday	29·694	54·0	48·9	+ 9·3	S.W.	W.S.W. & S.W.	115	0·0[illegible]	Nothing.
Saturday ...	29·851	55·6	51·3	+ 11·7	S.W.	S.S.W.	49	0·04	Nothing.
Means ...	29·665	55·0	51·1	+ 9·[illegible]	S.W.		Sums 810	Sums 0·19	[illegible] N. for N[illegible]

MORTALITY TABLE,

(Metropolis.)

For the Week ending Saturday, Oct. 27, 1849.

Causes of Death.	Total.	Average of Five Autumns
All Causes	902	1162
Specified Causes	902	1158
Zymotic (or Epidemic, Endemic, and Contagious) Diseases	229	307
Sporadic Diseases:		
Dropsy, Cancer and other Diseases of uncertain or variable seat	76	49
Tubercular Diseases	139	178
Diseases of the brain, Spinal Marrow, Nerves, and Senses	108	125
Diseases of the Heart and Blood vessels	41	40
Diseases of the Lungs, and of the other Organs of Respiration	132	211
Diseases of the Stomach, Liver, and other Organs of Digestion	58	
Diseases of the Kidneys, &c.	11	11
Childbirth, Diseases of the Uterus, &c.	16	1[illegible]
Rheumatism, Diseases of the Bones, Joints, &c.	6	
Diseases of the Skin, Cellular Tissue, &c.	2	1
Malformations	1	4
Premature Birth and Debility	19	23
Atrophy	25	18
Age		57
Sudden		12
Violence, Privation, Cold, and Intemperance		36
Causes not Specified		4

The following is the number of Deaths occurring from some of the more important special causes:—

Apoplexy ..		Heart	41	Phthisis	9
Bronchitis ...		Hooping-cough	16	Pneumonia ...	6
Cholera.........		Hydrocephalus	25	Scarlatina	33
Childbirth		Influenza		Small-pox	7
Convulsions...		Liver		Stomach	
Diarrhœa		Lungs		Teething	
Dropsy		Measles		Typhus	52
Erysipelas ...		Paralysis		Uterus	

BIRTHS AND DEATHS.

	Births.	Deaths.	Births over Deaths.
Males	686	442	244
Females	642	460	182
Total......	1328	902	426

TO CORRESPONDENTS.

The importance and the great length of the Report of the Cholera Committee of the College of Physicians, oblige us to omit several valuable communications: Professor Owen's Hunterian Lecture; Professor Quain's Clinical Lecture; and Dr. Letheby's Chemical Lecture, will appear next week. We have also in print a continuation of Mr. M'Dougall's Papers, and communications from Dr. Tripe and others. Our Edition of Dieffenbach, by Dr. Bushnan and Mr. Ure, must also stand over, as well as the Report of the Medical Society of London, Mr. Hobson's Case of Popliteal Aneurism, and a great extent of correspondence.

"Philo Scientiæ" asks the method of preparing Bromide of Cyanogen. Two parts of bicyanide of mercury and one of bromine are mixed together in a retort, which produces considerable rise of temperature. As soon as this action ceases, a gentle heat is to be applied, when the bromide of cyanogen passes over and fills the neck of the retort in the form of white cubic crystals, very volatile, gaseous at 80°, and soluble in water and alcohol.

"Post mortem" wishes to know, "whether cadaveric rigidity is a sure sign of death" It is generally considered so. Louis affirms that this is a most certain indication. He examined the bodies of more than 500 persons just after they expired, and always found, shortly after the extinction of life, that the articulations began to stiffen, even before the temperature of the body was sensibly diminished.

A Student of St. Thomas's" inquires "why this Hospital is called a Royal Hospital?" Because founded by King Edward VI. Previously it was an Almshouse, established by a Prior of Bermondsey in 1213.

"A Young Surgeon."—The appointment of Assistant-Surgeons in the army rests with Sir James M'Grigor, to whom we recommend our Correspondent to apply.

"Vaccinia."—The vaccine vesicle is confined to the part where matter is inserted.

"G. B. L."—Mucus in the urine may be distinguished from pus by the addition of acetic acid, mucus, also does not contain albumen in sufficient quantity to be coagulated by heat or nitric acid.

Anti-quack" inquires whether the College of Surgeons has the power of expelling any member who is the proprietor of a nostrum.—No.

A Member of the College."—Mr. Fellow's opinion is a mistake. Mr. Chitty was the gentleman intended to be consulted, and his views on the subject are entirely different. Our Correspondent's fears are, therefore, groundless.

F. S."—A kilogramme is rather more than 2 lbs., 3 oz., 4 drachms, avoirdupois.

A Country Surgeon" directs our attention to the circumstance of some medical practitioners in London placing their diplomas in their windows for public inspection. Such a practice is degrading to those who adopt it; and only very ignorant persons are attracted by it.

A Subscriber."—The sum named for the setting of the fracture is "reasonable," and may be recovered at law.

A Licentiate of the Apothecaries' Company."—A person having only a foreign diploma cannot recover for medicine and attendance in England.

Lector."—The Registrar of the University is the proper person to whom a letter should be addressed.

Galen" directs our attention to the circumstance of many diseases occurring in consequence of newly-built houses being too quickly inhabited. He says, that in various parts of the outskirts of London, a large number of new dwellings are constantly being erected, and scarcely are they completed before they are occupied. Five cases of cholera which proved fatal in persons who had recently taken new-built houses came under his superintendence, which he considered were produced by the exhalations from the damp walls and floors and the fresh paint. We believe that newly-built houses, when too quickly occupied, exert a very baneful influence on the health of the occupants. From the fresh materials which compose the dwellings, deleterious exhalations arise, contaminating the air. Houses ought not to be inhabited for a certain period after their completion; and our medical brethren should caution those within their influence of the dangers to which families are exposed by living in houses recently erected.

"A Constant Reader" directs our attention to the fact of the Registrar of Births in many districts being either a parish clerk, a stationer, a shoemaker, or some other tradesman. This circumstance, our Correspondent thinks, makes the office of Registrar so low, as to be unworthy the attention of a respectable medical practitioner. Nothing is gained by its being held by him, so far as the accuracy of the returns are involved; while it gives the surgeon, who holds the office an advantage over his professional brethren in obtaining patients. Our correspondent says, in his district, the Registrar, a medical man, is also vaccinator, "and he has not failed to follow up the registration of the infant by pushing its future vaccination—looking up the cases very attentively at their own houses. I could cite many cases where a medical man, holding the office of registrar, has obtained many undue advantages. The office may be equally well performed by the parish clerk or undertaker." We differ from our correspondent as to the propriety of cobblers, undertakers, or grocers being Registrars of Births and Deaths. A medical man is certainly the proper person, and we think that few would make use of the office to promote their own private interests, at the expense of their brother Practitioners.

"Medicus Juvenis."—Pregnancy frequently occurs during lactation. It is quite possible for conception to take place under the circumstances stated.

"T. C. D."—As both, within the jurisdiction of his University.

"Dr. King."—When Dr. King has perfected his Report, perhaps he will kindly communicate with us.

We are obliged to Mr. Moore for the return of the Cholera Table.

"Mr. John Beedell, jun., of Tiverton," is informed, that Mr. Wardrop's Work on the Heart will most certainly terminate with the present Volume of the "Medical Times."

Dr. Young, of Gravesend," has returned to us our Cholera Table, with a report of seventeen cases treated by him. He seems to have found much benefit from large doses of Calomel and Carbonate of Iron, which, he informs us, rapidly arrested the serous discharge from the bowels. We take this opportunity of requesting practitioners kindly to return our Table, with the results of cases, at their earliest convenience.

Dr. Reed Clanny, of Sunderland."—The request has been cheerfully complied with. We are obliged by Dr. Clanny's commendations and good wishes.

"Dr. Waller's" excellent communication on the employment of Ether and Chloroform in cases of Midwifery will appear next week.

Dr. Dingam on Cholera."—In our last week's publication this gentleman's name was printed "Dingham." It is Dingam.

"Mr. Bulley's" cases of bilious cholera treated by hot water applications to the abdomen, have been received.

"Dr. Mair, Staff-Surgeon" is thanked for his communication from Kingston, Canada West.

Dr. Crisp, we think, will, upon consideration, agree with us, that the matter to which he kindly alludes had better be allowed to pass unnoticed; especially as effectual means have been taken to prevent a recurrence.

"Dr. Kidd's" paper on Continental Medicine is received, and will receive early insertion.

"Mr. Hooper, Operative Chemist, of Pall-mall East," has written to us upon the subject of his Vulcanised Indian-rubber Cushions. Though highly approving of his invention, we cannot, this week, find room for his communication.

"Mr. Collins" is thanked for a bottle of the "Patent Infecting Powder, for the prevention of Cholera, Typhus, and other Fevers, by destroying malaria and offensive smells." We shall test its powers when occasion offers.

"Dr. Nankivell, of Torquay," is thanked, but respectfully declined. Upon another occasion, and under other circumstances, we shall be happy to hear from him.

We have several reviews waiting an opportunity to appear in our pages. We hope in our next number to find space for Cruveilhier's "Traité d'Anatomie Générale;" and in early numbers for Dr. James Henry Bennett's "Practical Treatise on Inflammation of the Uterus and its Appendages, and on Ulceration and Induration of the Neck of the Uterus;" Mr. Rynd's "Pathological and Practical Observations on Strictures and some of the Diseases of the Urinary Organs;" Mr. Stanley on "Diseases of the Bones;" Dr. Daniell, on the "Medical Topography and Diseases of Guinea;" Mr. Grantham's "Facts in Medicine and Surgery;" Noad's "Electricity;" and many others. The "Cyclopædia of Anatomy and Physiology," edited by Dr. R. B. Todd, especially demands our early attention.

ORIGINAL LECTURES.

HUNTERIAN LECTURES.

ON THE

GENERATION AND DEVELOPMENT OF THE INVERTEBRATED ANIMALS.

By RICHARD OWEN, F.R.S.,
Hunterian Professor and Curator of Museum of Royal College of Surgeons, Corresponding Member of the Institute of France, &c.

[Reported expressly for the "Medical Times," and revised by the Lecturer.]

LECTURE XIII.

NATURE AND AFFINITIES OF TRILOBITES ILLUSTRATED BY THE EMBRYOGENY OF CRUSTACEA.—Development of ovum and germ.—Metamorphosis and larval "Nauplius" of Cyclops: progressive confluence of the two eyes — Tailless trilobitiform larva of Limulus.—Metamorphosis of Pagurus and Crangon. larval *Zoea* and *Megalops* of the Brachyura.—More direct and regular development of the Craw-fish.—Transitory manifestations of characters and structures of inferior Crustacea in the course of the development of the higher species —Predominance of larval forms in ancient geological periods

MR. PRESIDENT AND GENTLEMEN,—The wider our survey of living nature extends—the greater the number of facts in the history of animals with which we become acquainted—the more do the points of correspondence between the different species increase, and the clearer becomes our conception of the unity of the general plan which pervades their organisation. This is especially the case with regard to the phenomena which we recognise in tracing the development of particular animals. But, before entering on the proper subject of this day's discourse, viz., the phases of the development of the individual Crustacean, I will premise a few remarks on the phases which this class itself has passed through from the period when we first recognise it amongst the animals that have heretofore peopled our planet.

To render my remarks on the Paleontology of the Crustacea intelligible, I may remind some of my hearers, that, at the present day, the class is naturally divisible into two great groups; but not, as Leach and Macleay believed, according to the sessile or pedunculate character of the eyes, for you find eyestalks in Entomostracans—to use the language of Leach, "podophthalmatous" species may be found amongst the lowest Phyllopoda, *e. g.*, in the genus *Branchipus*,—as well as in the highest members of the class. We must seek, therefore, some more constant and important character for our primary division of the Crustacea, and this character is found in the constancy of the number of the segments composing the body in certain members, and the variability of the number of segments in the rest of the class. Three primary divisions of the body may generally be recognised, viz., the head, the thorax, and the abdomen; the latter being, also, sometimes called the post-abdomen, or tail; but it is traversed by the intestine. In the actual majority, including the typical members of the class, the thorax includes seven segments, the abdomen seven segments, and seven are likewise indicated by the appendages in the head, twenty one being the typical number of the segments in the division of the Crustacea, called "Malacostraca;" at all events, the number seven is constant with regard to the thoracic segments and the abdominal segments in this sub-class. In the other, and lower, sub class, the number of segments varies, is often more, and sometimes less, than seven, and this sub class is called "Entomostraca."

The Malacostraca are again divided according to the relative length of the thorax and abdomen, or according as they have "long" or "short" tails, as the latter part is commonly called; in accordance with which, the technical names of these subdivisions, or orders, have been devised. The lobster is the type of the *Macroura*, or long-tailed order, and the Crab of the *Brachyura*, or short tailed Crustaceans. But Nature never moves *per saltum*, and there is a little groupe which has an intermediate proportion of the abdomen, and it has been called "Anomoura."

All the three orders are represented in the tertiary formations and in their Pliocene, Miocene, and Eocene divisions; but no species of crab, or brachyurous Crustacean, has hitherto been met with in strata more ancient than the Eocene. In the chalk formation, the highest form of Crustacean would be classed with the "Anomoura" of the French naturalists; but the Macroura are the prevalent forms. Lobsters, crawfish, shrimps, and other Macroura, but all of species now extinct, are met with fossilised in the secondary strata, from the chalk to the coal formation; but below the chalk, there are no higher forms of Crustacean than the Macroura. When we come to the coal-measures, the Malacostraca disappear; but we then find the gigantic Entomostracan called the King Crab, or *Limulus;* thence down to the lowest strata in which any trace of animal life has been found, the Crustaceou class is exclusively represented by Entomostracous species, and more particularly by a peculiar form of Entomostraca, which became extinct before the coal-measures were deposited. Almost endless, however, are the varieties under which this form was manifested in the Palæozoic periods: the term "trilobite" is given to the fundamental type or form, on account of the segments of the body being divided into three lobes

Our countryman Lhwyd, or Lloyd, first discovered this fossil in 1699, and he gave it the name of *Trinucleus*. At that time zoological science was not sufficiently advanced to afford a definite binomial sign for the extinct animal; and Lloyd's name rather indicated the petrifaction as such, than a species of the animal kingdom. This idea first arose about the time of Linnæus, by whom the fossils in question were placed in the class of insects, with the name of *Entomolithus paradoxus*. Knorr next studied it, and gave it the name of "Trilobite," believing it to be allied to the molluscous Chitons, which opinion prevailed to the time of the Entomologist Latreille, and died with him. The better preserved fossils, in fact, gave evidence of distinct organs of vision, large eyes, divided into numerous segments, and thus proving that the Mollusca could not be the primary division of animals to which the Trilobites belonged; and since that time, all naturalists have agreed in referring these fossils to class *Crustacea*.

With regard to their nearer affinities, all who had studied the Trilobites up to 1843, were of opinion that they were allied to the higher, or Malacostracous, division of the Crustacea; and Mr. Macleay, in his valuable appendix to "Murchison on the Silurian Strata," places the Trilobites in a distinct order between the Isopoda and Aspidophora. He based his views on the trilobed character of the segments in *Serolis* and *Bopyrus*, and showed that the eyes were large, sessile, and compound in Cymothoa, as in Trilobites. The *Cymothoa* and other Isopods, or wood-lice, roll themselves up into balls, as we find many of the Trilobites to have done before they perished But we find these characteristics also in the *Limulus* the segments of the hinder division of its body are divided into three elevations, or lobes; the large, sessile, compound eyes of *Limulus* are more like those of the Trilobite than the eyes of Isopoda are; and the larval Limuli roll themselves into a ball. Moreover, the excess in the number of the segments of the thorax or abdomen, over and above the number seven, which governs them in the Malacostraca, proves the particulars of resemblance to the sessile-eyed members of that sub-class, which Mr. Macleay indicates, to be no characters of immediate affinity to the *Cymothoidæ* or to the *Epicaridæ*, although some of these, like the *Sphæroma*, may present a large, convex, semicircular anal segment, such as we see in the Trilobitic genus *Bumastes* of the Silurian strata.

In my lecture on the Crustacea, delivered in this theatre April 27, 1843, and published in the following month, I introduced the Trilobites with the following remark :—"The distinction between the Entomostraca and Malacostraca, in the numerical character of the segments of the body, is of the first importance in determining the affinities of those ancient extinct Crustacea, called 'Trilobites.'" —Lectures on Invertebrata, p. 165. And I pointed out how *Bopyrus* and *Cymothoa* differed by their normal number of thoracic and abdominal segments, viz., 7–7. M. Burmeister, in [illegible] (1843), with equally [illegible] of this [illegible] [illegible] it, in determining the position of these animals in the System Naturæ, and [illegible] invalidated the marks of resemblance which [illegible] been noticed between certain Isopods and Trilobites. But, he errs, I believe, in thinking [illegible] still more widely removed from the Trilobites than the Isopods are, not apparently knowing the Limulus in its larval state. Professor Emmerich, in a memoir in Bronn's Neuer Jahrbuch, 1845, regards the Trilobites as a peculiar order, connecting the *Malacostraca* with the *Entomostraca*, but more nearly related to the latter. He thinks them allied to the Malacostraca by their crust-like shell, and by their not possessing simple eyes together with compound ones; but this combination is rare even in the *Entomostraca*. He deems the *Limulus* and the *Phyllopoda* to be the two orders of Entomostraca to which the Trilobites are united by the nearest characters of affinity. They correspond with both as regards the form and size of the clypeoid head or cephalo-thorax. The soft texture of the under side of the body of the Trilobites, and the circumstance that no one has yet succeeded in detecting unequivocal vestiges of legs, are in favour of the supposition that they must have corresponded, in the perishable structure of their feet, with the *Apus* and *Branchipus*. But, to what end, you may ask, tends all this discussion concerning the affinities of animals, that have long since ceased to exist? How are we concerned with it, in considerations relative to the generation and development of the actual Crustacea? To this I have to answer, that it is only by a knowledge of the transitional larval forms of these, that we come rightly to comprehend the nature and affinities of the ancient *trilobites*:, and that our knowledge of the most interesting relations of actual larvæ requires a previous knowledge of the forms of their class that have heretofore existed in this planet. In no mature stage of any existing Crustacean do we find the trilobites so closely resembled, as they are by the larval stages of the *Limulus*, and of some of the smaller *Entomostraca*. The metamorphoses of these are such that different stages are figured as distinct species in the well-known work "On Entomostraca," by O. F. Muller. In the larval cylops, which is his genus *Nauplius*, the eyes are distinct; but, in the course of the first and second moult they approximate, and finally unite together. The body of the larval *Branchipus* consists at first of two oval divisions, like the spiders; that which represents the thorax and abdomen united has no legs; but two pairs of natatory setigerous legs, and two antennæ, are developed from the head, which has a single median eye. The form of the head is also different. After the first moult the head has three eyes, a pair being added to the first median one; but all are sessile. The abdomen elongates, and divides into rings, and is now provided with rudimentary tubular feet. At the secondary moult, the first pair of foliaceous feet appear, succeeded by seven pairs of rudimentary ones. In succeeding moults the lateral eyes become pedunculated, and the median eye disappears; the abdomen grows longer, and its limbs are perfected. The *Apus* quits the egg with fewer segments than it afterwards acquires. The larval *Sao* has but three thoracic segments, but the number of these increases with each successive moult, until the adult form is acquired: the new segments being developed between the thorax and abdomen. Similar metamorphoses have been evinced by fossil specimens of the tribolitic genus *Ogygia*, in which the additional segments were developed at the hinder part of the abdomen.

One cannot witness the earlier stages of *Branchipus* and *Apus* without being struck by their resemblance to certain forms of Trilobites. And so likewise with the larva of the Limulus. The argument against the affinity of this genus to the Trilobite which had most weight with Burmeister, was the peculiar bayonet-shaped weapon proceeding from the post-abdominal division of the body in the fully developed King-crab. Now, when it quits the ovum, this weapon is

not developed; the cephalo-thorax is relatively smaller; the abdomen longer, and more trilobed, and altogether the larva is much more like the Trilobite than the later stages. The cephalo-thoracic shield is enormous in the larval *Sao*, but becomes reduced to comparatively small dimensions in the adult animal. Some of the forms of the smaller Trilobites, which figure as distinct genera, *e.g.*, *Battus* and *Agnostus*, may also be larval forms of other genera; for, like the existing Entomostraca, the Trilobites underwent their metamorphoses, which, as in the case of the *Ogygia*, were, also, of a similar nature. Therefore, by these facts in the development of the lower Crustacea, few indeed, I admit, when compared with the great number of known Entomostraca that now exist, a clearer light is thrown on the real nature of those ancient Trilobites than could have been expected in regard to extinct creatures, the affinities of which were so long and so lately considered problematical.

The ova, after extrusion from the oviducts, are retained and protected in the *Cymothoa* and other sessile-eyed Malacostraca by means of the flabelliform appendages of the extremities, which appendages are unusually expanded, and overlap each other, so as to form a marsupial cavity or temporary receptacle, in which the incubation of the ova is completed. In the Podophthalma, the lamelliform ciliated appendages of the abdominal segments include similar marsupial or incubatory recesses for the ova. The female lobster and other Macroura are distinguished from the male by the greater development of these appendages, and in the Brachyura the shorter abdomen or tail is so much more expanded in the females as to cover nearly the whole sternum, and render the sex distinguishable at a glance.

With regard to the higher groups of Crustacea, up to a late period naturalists had believed that they differed from insects, as well as from *Entomostraca*, in undergoing no metamorphosis, but they offer differences in this respect in different species. The phenomena of development common to all are the following:—The primary germ-vesicle, after impregnation of the ovum, propagates its progeny not at the expense of the whole germ yelk, but only of a small portion of it; so that the process of yolk fission is a partial, not a total one: all Crustacea show the same direction of development,—*i.e.*, they obey the law of the Articulate type by the commencement of the embryo at its ventral surface,—it is literally built up from below, and consequently the umbilicus, or the last cicatrix closing in the yolk-sac, is on the back; the body is completed by the finishing of the segments or rings at the dorsal surface of the body. In regard to the Malacostraca, there are many modifications of the secondary or subsequent phenomena of development. As long ago as 1788, a Dutch naturalist, Slabber, described and figured a minute swimming Crustacean of the genus called *Zoea* by modern naturalists; it was provided with a pair of large and distinct eyes; its carapace was armed with a long frontal and a dorsal spine; and its abdomen was terminated by a forked tail. He preserved this little animal alive in sea water, which was daily renewed, and on the fourth day he found that the animal had changed its form; the feet, eyes, and antennæ were more developed, the frontal spine had become comparatively small, the dorsal one had disappeared, and the tail had changed from the bifurcate to the spatulate shape, and was fringed by a row of short spines. Many years elapsed ere this observation was repeated, and it seems to have been forgotten, when Dr. Leach, the most accomplished Crustaceologist of his day, founded the principal character of the class Crustacea on the absence of metamorphosis.

During the spring of 1822, Mr. V. Thompson, to whom we are indebted for the discovery of the metamorphoses of the Cirripedes, captured an abundance of the singular Zoea in the harbour of Cove; the largest of them was daily supplied with fresh sea-water from May 14th until the 15th of June, when it died in the act of changing its skin. The disengaged members, invested with the new integuments, were changed both in number and form, and corresponded with those of the decapod Crustacea, the anterior pair being furnished with large pincers. Here, therefore, was a strong indication that, under the form of a Zoea, was masked that of some one or other of the higher Crustacea; and, probably, one of the common species of the Irish coast. To the development of these, therefore, Dr. Thompson next turned his attention, and he succeeded in hatching the ova of the common crab during the month of June, and found that the young were excluded under the form of the *Zoea Taurus*, with the addition of lateral spines to the thorax; whereupon he concluded that the decapod Crustacea indisputably underwent a metamorphosis.

These observations were, however, called in question, after the appearance of the elaborate monograph by Rathke, on the development of a fresh water species.

In the year 1829, Dr. Rathke published his "Researches on the River Craw fish (*Astacus Fluviatilis*). In this species the ovum first appears in the shape of a minute transparent vesicle, which afterwards becomes surrounded by a second, forming the membrana vitelli; the nature of the processes effecting this stage appears not to have been observed. The yolk increases in quantity, and is rendered opaque by the presence of numerous granules, or nucleated cells, which are at first angular, and change from the lenticular to the spherical figure; then the internal minute transparent germinal vesicle quits the centre, and comes into contact with one part of the parietes of the ovum. The colour of the yolk successively changes to yellow, orange, and brown; the spermatozoa, enveloped in their spermatophore, when they are received into the oviduct, escape therefrom, and ascend the duct to the ovarium, and after coming into contact with the ovum, the clear vesicle disappears, and the production of the embryo commences. Rathké failed to ascertain what became of the vesicle. The formation of the ovum in the ovary continues half a year. In the month of November the vesicle was visible; in the ensuing March it had disappeared.

The ovum escapes into the oviduct by bursting the inner lining of the ovary. It is surrounded by a layer of albuminous matter, and is enclosed within a coriaceous chorion, and an irregularly deposited nidamental tunic, by which the ovum, after exclusion, becomes attached to the ciliated plates beneath the tail of the mother.

The first appearance of development is as a whitish cloud of indeterminate form, spreading over the vitellus, and assuming, as it extends, a reticulated appearance. It seems as if the germ cells had propagated themselves over the superficies of the yolk mass. A discoid portion of the opake layer is defined from the rest, and increases in thickness at its middle part. Its longest diameter is about half the radius of the egg. A depression appears in the centre of this, which passes more and more deeply into the vitellus, and the embryonic spot expands at its margins. The patch next grows heart shaped, and the antennæ, the labrum, mandibles, and abdomen become simultaneously recognisable. The first appearance is a minute median prominence, which becomes the labrum; that part of the mouth which which we find most constantly in the Crustacea. Then the other parts appear in order; the antennæ, at first short and simple processes, increase in length, and their extremities become notched; the mandibles also lengthen and enlarge, particularly in their basal portion; the labrum recedes from between the anterior antennæ, and takes its station between the posterior; the eyes now first make their appearance. All these parts are, at first, slight elevations above the surface of the germ. A cavity is formed behind the labrum, which communicates with the commencement of the œsophagus; the tail or abdomen elongates, and the depression in its surface is converted into the anus; the rest of the alimentary canal is a simple wide sac, which, by the extension of the mucous layer of the germinal membrane, now includes the vitelline mass.

The three anterior pairs of maxillæ begin to show themselves at a little distance behind the mandibles, and afterwards the fourth and fifth pairs; the last increasing in size more rapidly than the rest. Thus, including the eyes and the two antennæ, nine pairs of appendages may now be recognised, of which the two last belong to the thorax: the five posterior pairs of thoracic members, which are not, like the first two, developed into jaws, are produced in regular succession from before backwards from that portion of the body which is turned upwards, or the epimeral elements of the rudimental segments. Each of the legs at its first appearance is exactly similar to the hindermost maxillæ; these, therefore, are retained in the service of manducation by an arrest of development. The ambulatory legs increase inversely with respect to the maxillæ, the anterior soon acquiring four times the length of the posterior. The rudiments of the future branchiæ next appear as small processes from the base of each leg. The seven segments of the third division of the body may now be distinguished by six transverse furrows, and by the rudiments of foliaceous appendages. Part of the cephalic segment above the antennæ is the basis of the great shield which afterwards covers the whole cephalo thorax; it grows upwards and backwards until it meets its fellow along the median line of the dorsal aspect, and so completes the carapace.

The heart appears at first in the shape of a small compressed vesicle, or "punctum saliens," situated near the junction of the anterior and posterior divisions of the body: bloodvessels seem to be prolonged from it, and its pulsation speedily becomes distinguishable.

The nervous system consists at first of eleven pairs of minute white spots, from the anterior of which a short and broad process passes forwards on either side of the œsophagus. The above described stages of development are in progress from the beginning of April to the middle of May.

The whole of the organs continue to approach more nearly to their mature form. The brain, liver, and salivary glands next make their appearance. The outer integument of the body is developed from the ventral to the dorsal aspect, and the yolk-laden intestine is finally, with the heart, walled in by the confluence of the lateral lobes of the integument along the middle line of the back.

The integument is very soft when the animal quits the shell: it subsists, at first, on the remaining portion of the yolk, during which time its coat becomes sufficiently hardened to admit of its moving about in quest of food with more safety. The different appendages increase in length, and more especially the branchiæ, the growth of which is now remarkably rapid. The changes of the interior parts of the animal, with the exception of the development of the sexual organs, consist in a gradual adaptation of parts already formed to their proper functions.

The relative positions of embryo and vitellus are the same in the craw-fish as in the *Daphne pulex* and *Branchipus stagnalis*. The maxillæ present at an early period a considerable resemblance to those of the *Apus*; the legs, at the period when they are devoid of branchial appendages, typify the persistent condition of the Branchiopoda; after the branchiæ are developed, but before they are enclosed in the branchial chamber, the characteristic persistent condition of the respiratory system of the Edriophthalma and Stomapoda is sketched out.

M. M. Audouin and Milne Edwards have shown that the successive changes of development of the nervous system of the craw-fish correspond in like manner with distinct types of formation observed by them in its permanent condition in lower species of the class; thus the double series of ganglions, which first indicate the subœsophageal central part of the nervous system in the embryo craw-fish, is analogous to the permanent state of the nervous system in the mature *Talitrus*. At a more advanced period, the two series of ganglions in the fœtal craw-fish approach the median line and become united together as in the abdominal ganglionic chain in the adult *Cymothoa*. We have seen, that in the brachyurous Crustacea a further concentration takes place by the longitudinal blending together of the whole series of the subœsophageal ganglia, which clearly indicates that the brachyurous Crustacea are

more highly developed than the macrourous species; contrary, however, to the opinion of Dr. Rathké. The eyes are at first sessile in all Crustacea.

It is certain that the moult of the young craw-fish is not at any period accompanied by a marked change in the form of the body, or in the structure and functions of the locomotive members; this Crustacean, in short, undergoes no sudden metamorphosis. The progress of development is not interrupted by arrested phases.

A series of less complete observations on the ova of a species of land crab (*Gecarcinus*), more recently published by Mr. Westwood, lead to the same inference in respect of that species; although the macrourous proportions of the abdomen, and the exposed position of the gills at the base of the thoracic legs, obviously unfitted the larva for land life, and demonstrated the necessity for the parent's migration to the sea. Nevertheless, this accomplished entomologist coincides with Dr. Rathké in the general conclusion, that the Crustacea undergo no metamorphosis, and that the contrary evidence adduced by Slabber and Mr. Thompson must depend on some erroneous observation.

The opposite conclusions of both parties from the phenomena afforded them by the solitary species examined, may be compared with analogous premature generalizations which might have been drawn, in reference to the class of Insects, by the observer of the development of a cock-roach on the one hand, and by the observer of the metamorphoses of a butterfly on the other. As reasonably might the one, after detailing the progressive development of the orthopterous insect, broach the inference that insects underwent no other metamorphosis than the gradual acquisition of wings; and, with equal reason, might the other observer of the wonderful changes of the lepidopterous insect affirm them to be characteristic of all insects. It needs only that each theorist should question the reality of the other's observation to make the parallel complete. The failure of both to arrive by so short and easy a route at the entire truth, inculcates the necessity of acquiring a sufficient foundation, by careful and extensive induction of facts, before proceeding to erect the superstructure of general theory.

With regard to the metamorphosis of the common crab, valuable testimony in confirmation of Mr. Thompson's discovery has been contributed by Capt. Du Cane, R.N. This gentleman obtained crabs with ova under their tails in the month of December, from which the larvæ were produced in the months of March and April. Soon after exclusion this larva casts off its envelope and assumes an appearance which closely corresponds with that zoeiform Crustacean, whose further changes were witnessed by Mr. Thompson, and which he had assured himself was an early or larval state of a common crab. The last form which immediately precedes the assumption of the mature characters corresponds, according to Dr. Thompson, with that of the genus *Megalopa*.

The additional evidence afforded by Capt. Du Cane in proof of the actual metamorphosis of the Crustacean in question, is most acceptable. He affirms a corresponding metamorphosis to occur in the ditchprawn (*Palemon variabilis*) and common shrimp (*Crangon vulgaris*). Dr. Thompson has witnessed similar metamorphoses in the genera *Palinurus*, *Squilla*, *Pagurus*, *Porcellana*, *Galatea*, and the marine species of *Astacus*, as well as in *Palemon* and *Crangon*.

Mr. Couch, a medical gentleman residing on the coast of Cornwall, contributed a paper to the Cornish Natural History Society, three or four years ago, in which he described, with much care and detail, the metamorphoses of the common crab. The nervous system first appears on the ventral aspect of the embryo; at this period it agrees in its arrangement with that which is persistent in the edriophthalmata, and the eyes of the larval crab are likewise now sessile. A second metamorphosis takes place, when the eyes become supported on long and thick peduncles. None of the phenomena are more remarkable than that of the nervous system, where ten pairs of ganglia are consolidated into one great central ganglion in the crab. With respect to the *Maia*, or spider-crab, also, there is a very complete metamorphosis. According to Couch, in both kinds of crab the larva quits the ovum in a form more strictly aquatic than the adult; and this gives us an insight into the curious law of the periodical migrations of the land-crabs of the West Indies to the sea. Brown, in his "History of Jamaica," gives a graphic account of these migrations. About the month of February or March, they may be seen in crowds on their way to the sea-side, impelled thereto in order to deposit their ova in the sea. These ova have been excluded from the oviduct, and are attached, by the nidamental gluten, to the ciliated sub-caudal appendages; and Brown's idea was, that it required the sea to wash them off. But now, as we know that the larval land-crabs are natatory, and more especially fitted for sea-life, we see the necessity for the migration of the parent-crab to that element for oviposition.

Finally, the metamorphosis of another species of shrimp (*Caridina Desmarestii*) have been described with all the requisite care and detail by M. Joly, in the "Annales des Sciences Naturelles" for January, 1843. The development of the ovum up to the period of exclusion and attachment to the maternal ciliated plates, closely corresponds with that described by Rathké in the *Astacus fluviatilis*. The first stages in the formation of the rudimental extremities,—the first steps in the definition of the alimentary canal and circulating system, were likewise the same; the heart was observed to beat thirty-five times in a minute in the embryo *Caridina*. But the formation of the abdomen is anterior to that of the antennæ, the labrum, and the maxillæ; and the ambulatory thoracic legs precede the masticatory pairs in their formation. The young *Caridina*, moreover, is born with only three pairs of jaws, and the representatives of the ambulatory feet are bifid, like those of the *Mysis*, and are at first likewise only in three pairs. The abdominal segments are without any vestige of lamelliform limbs.

The bifid feet of the larva are metamorphosed into auxiliary jaws, and the later bifid thoracic limbs are metamorphosed into the ordinary ambulatory legs. With respect to the branchiæ they are not at all developed when the young Caridina quits the ovum. The first moult takes place three days after exclusion from the egg; the subsequent ecdyses are numerous, and take place at long intervals. It is unquestionable that the Caridina, unlike the Craw-fish, is excluded neither under the form, nor with all the parts which it possesses in its mature shape. It wants, for example, the branchiæ, a certain number of maxillæ, the ambulatory thoracic, and the lamelliform abdominal feet; it possesses neither the squamous tail nor the complex stomach of the mature creature.

The cumulative evidence of the metamorphoses of *Crustacea* can no longer be rejected; but their modifications in different genera, and the number of the exceptions to the law, like that presented by the *Astacus fluviatilis*, are yet to be determined. Here, therefore, is an ample field open to the researches of the original observer, a field which must be diligently and extensively cultivated before it can yield the fruits of true generalisations as to the extent, and nature, and varieties of the metamorphoses in the class of articulate animals which support their bodies on jointed limbs and breathe by gills.

Sufficient has been observed to show, that if certain stages of the development of a higher Crustacean were arrested, and growth alone proceeded with, an animal would result having the characters of the Crustacea of an inferior order. The Crab is "anomourous" before it becomes brachyurous, at an earlier period it is macrourous, and it is "edriophthalmous" before it becomes podophthalmous; and all these stages typify the successive forms of the Crustacea, as they were introduced into this Planet. The entomostracous characters were never overpassed by the Crustacea anterior to the coal measures, and the type of the Macroura did not begin to be departed from until the period of the deposition of the chalk. All the decapod Crustacea are, at first macrourous, or manifest the Oolitic type; and all Brachyura pass through the anomourous or cretaceous type before the proper brachyurous or tertiary character is finally acquired. These resemblances are general, and by no means exact in specific details. No extinct species could be reproduced by arresting the development of any known existing species of Crustacea; and every species of every period was created most perfect in relation to the circumstances and sphere in which it was destined to exist.

CLINICAL LECTURE

ON CASES

OF FISSURED PALATE, TREATED BY OPERATION [STAPHYLORAPHY.]

By R. QUAIN, F.R.S.,

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[Reported by EDMUND CARVER, M.R.C.S., lately House-Surgeon to the Hospital.]

The cases to which I am about to direct your attention to-day are two examples of malformations of the soft palate, which have been, for some time, under your notice. The first case is an example of the most frequent form of the deformity. Its history is as follows:—

William Turner, aged 16, admitted into hospital to be treated for cleft palate. He is of ruddy complexion, somewhat strumous in appearance. His usually had good health, but the cervical lymphatic glands generally are enlarged; and there are now discernible at the side of the neck below the parotid, the scars remaining from suppurating sores, which formed in connexion with inflamed glands two years ago. In the same position the glandular enlargement is at present greatest.

Both his parents are living, and are said to be healthy. They have, in all, eight children; but this boy is the only one affected with any deformity or malformation.

As usual, in such cases, a supposed cause is assigned for the defective state of the palate. It is attributed to a shock which his mother, when pregnant, experienced, in consequence of her husband killing a rabbit in her presence, &c. &c.

In infancy, when he was suckled, the milk flowed from his nostrils "almost as fast" as he drew it into his mouth. But the quantity that thus escaped gradually lessened as he advanced in age, so that by the time he could feed himself, very little passed by the nose. At present none of his food is diverted from its proper course. His pronunciation is very indistinct, in so much that his speech is for the most part unintelligible, except to those who have been accustomed to it.

On examining the throat, the soft palate is found to be divided in its whole length into two equal parts. The parts are red coloured and of good thickness. At the upper or anterior end they are attached close together to the hard palate. From this they diverge at once, and hang wide asunder; but, when upon being bid, the young man makes an effort to swallow, they are observed to approach one another, and even to touch at the lower ends—not in their whole length. The bony palate is entire, except that there is a very small angular notch at the middle of its posterior margin, where the flaps of the velum are close together. The tonsil on the right side is enlarged.

The Operation.—By means of a scalpel, curved on the flat, and double-edged, a free incision was made upon the back part of each of the two halves of the soft palate, at about half an inch from the edge. Some difficulty was experienced in effecting this first step of the operation on the right side, in consequence of the flap of the velum being forcibly drawn outwards to the side of the pharynx, and much narrowed. This happened, especially when the part was touched with the knife; and, at the same time, a narrow depression or dimple was observed on the under surface of the palate, doubtless marking the insertion of the levator palati on the posterior surface, the muscle being in a state of forced contraction.

In the next place, three silk sutures of good thickness were introduced, the lowest through the uvula near its base, the highest about half an inch from the hard palate. They were passed by means of a bent needle, of the kind constructed with a long handle and of rather small size. The needle carrying each suture was made to puncture the left half of the palate on the lower or buccal surface, about a quarter of an inch from its edge. When the velum had been penetrated, the loop of string was caught with a pair of forceps passed back in the cleft, and was so held while the needle was withdrawn. A loop of thin silk was passed in the same way, at the same height, in the opposite division of the velum, and this loop was used to convey the suture-thread from behind forwards into the second half of that structure. The edges of the soft palate being pared, the ends of each of the sutures were drawn together and fastened with a surgeon's knot, a pair of forceps being used to prevent the ends of the threads from slipping while the knot was made.

On the evening of the operation, a degree of nausea came on, which was troublesome till the patient fell asleep. It was probably caused by a little oozing from the incisions on the back of the palate and from its edges. During the first following days, there was a good deal of swelling about the sutures. On the third day the highest of these was removed, and on the day after the other two were cut and withdrawn. It was now found that union had taken place to a considerable extent. The sides of the uvula, with those of the velum contiguous to it, were firmly united; and about midway between this point and the hard palate union was established for the space of about a quarter of an inch. Above and below the last mentioned adhesion there was an opening, and at the lower one of these a slight degree of ulceration was noticed. By the use of solid nitrate of silver, slightly applied when the surface became clean and repeated at intervals, the two openings soon became reduced to the size of pin holes, and these were closed after a heated wire had been passed through.

After the operation, and during several days, the patient was fed, at intervals of about eight hours, with bread in warm milk or beef tea. No solid food was permitted.

Upon trial being made respecting the effect of the operation on the power of articulation, when the holes in the velum were closed, some improvement was evident, and it gradually increased up to the time the patient's attendance at the hospital was discontinued.

Observations.—The first subject for our consideration upon examining a case of this malformation is, its fitness for operation. In order to arrive at a proper conclusion on this point, the extent to which the parts are separated is to be fully taken into account. Respecting Turner, it is said, that with the exception of a notch of trifling extent at the middle of its posterior margin, the hard palate was entire. Of the two parts, likewise, which represented the soft palate, it is stated, that though they are far asunder for the most part, they are close together at their points of connexion with the hard palate; moreover, that they approached and even touched one another at the lower end, when an effort was made to swallow, and the approximation occurred while they were still under observation, while, therefore, the mouth was open, and the effort of deglutition was imperfect. From these circumstances we conclude that there is no loss of substance, or, at all events, that the halves of the fissured structure are sufficiently wide to be brought together and permanently joined.

Now, if in such a case as this the two ununited pieces of the soft palate (so to express the condition of this structure) could, after the abscision of the edges, be held together by means applied at the edges, there would be no undue stretching of any part, inasmuch as the traction would be equally diffused over the entire breadth of the flaps. But this obviously is impossible. The means of keeping the parts in contact, while their adhesion goes on, must be fixed at some distance from the edges,—at least this is true of any means at present used,—and, on this account, the portion only of the velum which is outside the holes for the ligature is stretched. Here, then, is one difficulty to be overcome—the difficulty, namely, that arises from our imperfect means of holding the parts in contact.

Again, in the ordinary state of the fauces of a person afflicted with this malformation, the pieces of the velum hang, as we have seen in the case of Turner, wide apart; and it is only by strong muscular effort that they approach one another. The habitual separation of the flaps is in a great measure owing to the natural elasticity of the structures, whereby they are withdrawn to the more fixed or outer side when the muscular effort which brought them together ceases. But besides this, it will at once be apparent, on examination of the muscles (as you may see this preparation), that the levator palati, in consequence of its inclination inwards from the base of the skull, has necessarily a tendency to draw outwards that side of the divided soft palate with which it is connected. The two muscles draw the parts of the velum asunder. Accordingly, we have seen in the case of Turner, that difficulty was experienced in one step of the operation—that for making an incision on the posterior aspect of the velum,—in consequence of the sides of this part being much narrowed when the muscles were thrown into action by the touch of the instrument. It has happened, moreover, after the removal of the ligatures applied in an operation, that the adhesion which at first appeared to be firm has given way and to all appearance from the influence of muscular action.

With a view to surmount the obstacles to the successful result of "Staphyloraphy" now detailed, modifications have from time to time been made in the operation; or rather additions have been made since the operation was first introduced into surgery. Thus, in order to prevent or diminish the tension or dragging which was occasioned by the ligatures, incisions have been made into the velum outside the ligature holes. And in order to paralyze the muscular action during the healing process, the levator palati, palato-pharyngeus, and palato-glossus muscles have been divided. To Mr. Ferguson we are indebted for showing the necessity of dividing the muscles, and for suggesting the method whereby to attain the object.

It was then with a view to overcome the obstacles here noticed, that, in the case under our observation, an incision was made on the posterior or upper surface of each side of the velum palati, where the levator joins that structure; and, further, the incision was made of considerable length and depth. By an incision of this kind, not only is the muscle divided, but the over tension of the velum when the ligatures are drawn together is guarded against, as far, at all events, as any separate or independent incision for the purpose would attain this end. The single incision then accomplishes both objects.

But you will remember there is no mention in the detail of the case, which has been read to you, of any muscle having been divided besides the levator palati. The reason is this: I am not satisfied of the necessity or utility of cutting the palato-pharyngeus and palato glossus. These muscles, in the healthy state of the parts, undoubtedly approach each other from opposite sides during deglutition so as to close upon the alimentary bole, and they are, I apprehend, the agents in that approximation of the two halves of the palate which takes place during the attempt to swallow the saliva. We witnessed this fact in Turner; it is common in such cases. Influenced by these considerations, I restrict myself to the division of the levator muscle. In making the incision for this purpose, it will be well to draw the fragment of the velum, by means of the hooked forceps, into the pharynx, for by this means the part to be divided will be stretched, at the same time that the tendency of the muscle to narrow the palate is counteracted.

There is no likelihood, I may add, of inconvenient hæmorrhage during the operation. The internal carotid, the only artery of importance in the neighbourhood, is considerably behind the seat of incision. This preparation illustrates this fact as well as some others I have adduced.

The Sutures.—Much depends on the proper application of the sutures, and much attention is requisite in order that they shall be firmly fixed, retaining the flaps in apposition, but, if possible, without any straining of the tissues. The material used for the sutures, the manner of their insertion, and the method of fastening them, have been almost as various as the surgeons who have undertaken the operation. M. Roux used rather broad ligatures, with very short and very much bent needles. By means of the "needle-carrier" (*porte-aguille*) which I show you, he inserted the needle at the back part of the velum; the ligatures were tied in front. Dieffenbach likewise inserted his short, straight, triangular needles from behind, with a pair of long forceps, adapted for the purpose of holding the needle at such an angle that it readily perforated the velum on its posterior surface. But this surgeon used leaden wire instead of thread, and this substance was inserted into the end of the needle, which was hollowed for the purpose of receiving it. I show you the apparatus. The advantage presumed to be gained by this plan was, that the two ends of the connecting substance admitted of being twisted or untwisted, so that the surgeon had it in his power to augment or diminish its tightness at will, whereas the silk thread is fixed once for all. An ingenious contrivance for fastening the usual silk suture has been used by Sir Philip Crampton, namely, a little ring of metal, which received the two ends of the ligature, and which, after these had been drawn together in the proper degree, was fastened by pressure with a pair of strong forceps. (See *Dublin Journal of Medical Science*, Vol. XXII., p. 324.) Instead of the metallic ring, Mr. Ferguson forms a loop on one side of the ligature, into which he inserts the opposite end of this, and then ties the knot. Again the quilled suture has been resorted to. In the case of Turner, the surgeon's knot was effectual. The first part of the tie, as is stated in the narrative, was prevented from slipping by means of a pair of forceps. The variety of expedients resorted to serves to show the great importance which attaches to this part of the operation, and the difficulty as well of accomplishing the object in a perfectly satisfactory manner,—a difficulty arising out of the depth of the part operated on, and the narrowness of the space in which the surgeon acts.

I turn, in the next place, to the question how the patient should be treated after the operation. Professor Roux, who invented the operation, enforced rigid abstinence during several days. His precept was this:—"After the operation, and for the space of four or five days, the person operated on ought neither to speak a single word, nor eat nor drink, and ought not even to make the movement of deglutition necessary to swallow the saliva."—[Mémoire sur la Staphyloraphie ou Suture du Voile du Palais. 2nd Edition, page [illegible].] Putting out of question the suffering occasioned by adherence to this rule, the constitutional state it is calculated to induce, cannot, I think, be favourable for the proper elaboration of the adhesive process by which the cure is to be effected. Besides, the number of persons to whom the operation would be applicable would be much limited if the observance of that rule were indispensable, for all young persons and delicate females would be excluded. Happily, however, more recent experience (the important suggestion being due to Sir P. Crampton) has, in a great measure, proved that a fair allowance of food after the operation does not interfere with the favourable progress of the case. But, supposing for a moment the present amount of experience to be insufficient to establish the propriety of allowing the patient a moderate quantity of food, we may, I think, still show the presumed necessity for entire abstinence to be not well founded. For what, in fact, is the position of the two halves of the fissured palate during deglutition? We have seen already that they were drawn together during the muscular effort which belongs to that process. It was, indeed, the observation of this very fact that first suggested to the mind of M. Roux the possibility of uniting the two pieces by suture. He states that, while he was engaged in inspecting the mouth of the medical student (Mr. Stephenson) on whom the operation was first performed, but without contemplating the possibility of affording any relief for the malforma-

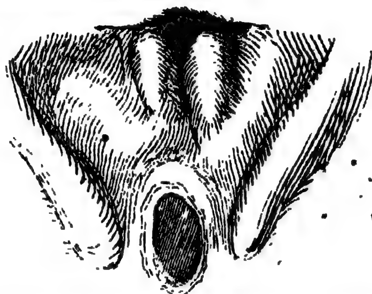
tion, he happened to observe, "during an involuntary movement of the isthmus faucium, rendered necessary, doubtless, by the necessity of swallowing a little saliva, that the two parts of the velum, for an instant, came into contact by their free borders." —("Mémoire," &c. P. 12.)—"This," continues M. Roux, "was a flash of light for me." From this single fact he inferred the possibility of effecting the closure of the palate by operative procedure. Now, seeing that such is the effect of the effort of deglutition on the parts of the palate before they are brought together, why should there be so much apprehension respecting that act after the sutures have been inserted? It is, to be sure, highly probable that frequent disturbance of the parts would interfere with the process of adhesion; and it is also likely that solid food would be injurious by its actual pressure on the velum as well as on account of the continued movement of the muscles during mastication. But this would be an argument not so much for entire starvation as for confining the patient to the use of soft food administered at considerable intervals. The course, therefore, that I recommend is this:—The patient is to take a meal about an hour before the operation, that space of time being allowed to intervene lest vomiting should be brought on by the necessary interference with the fauces if the stomach were encumbered with recently taken food. Some nutriment may subsequently be allowed in a few hours, six or eight, according to circumstances, and repeated every eight hours. Modifications of the plan will, of course, be made according to circumstances, including the age and strength of the patient. For example, upon the continuance of oozing of blood from the edges and back part of the velum, as it has a tendency, after the operation has been completed, to cause a degree of nausea, or even sickness,—(this occurred in the patient, Turner,)—I prefer delaying the concluding step of the operation for a couple of hours to completing it at once. This pause is allowed where there only remains of the operation to draw the ligatures from one side of the velum into the other, and to tie the knots. In this interval cold water ought to be often used to wash out the throat, and some soft nutritious food should be given; after which the parts are cleansed of clots and put together. The last step of the proceeding is advantageously timed towards the close of the day, (while, however, there is still good daylight,) for then food need not be taken again till breakfast on the following morning. The aliment is to consist of milk, with tea or coffee, if desired, or beef-tea thickened with bread-crumb, arrow-root, or other farinaceous substance; and it is to be continued of the same kind during several days.

The Effect of the Operation on the Speech.

It must not be expected that a person who, during his preceding life, has spoken very indistinctly, shall at once assume all the consequences of the possession of a complete organ. Every one's experience furnishes him with sufficient proof, that even where there is no malformation whatever, at least none that is appreciable, much practice, as well as aptitude, is necessary to the attainment of really distinct articulation. From the operation, even when completely successful, all that can properly be expected is, to place the patient in such a condition, that he may effectively practice to attain the art of speaking with distinctness. The lad Turner, it should be stated, had less than average facility in speaking, even as compared with other persons affected with the same malformation. He failed especially in pronouncing letters which are formed with the tip of the tongue, and with the aid of the teeth. Hence such words as "sister," "Thames," &c., when sounded in his way, were scarcely to be recognised. It seemed, in watching him, as if the muscles of the fauces were engaged in preventing the voice from passing through the nose, while those at the anterior part of the mouth were not called into action at all, or very ineffectually. Notwithstanding, however, the manifest want of aptitude in the patient, the amendment, which is stated in the narrative read to you to have been apparent when the sides of the palate had been completely closed, became a clear improvement after he had been engaged with his family in practising the pronunciation of some words, of which Mr. Jackson, his dresser, kindly gave him a list. The improvement, as might be expected, is more decided and rapid when the person is placed under the instruction of one of those gentlemen—(Mr Poett, for example)—who devote themselves to correcting faults of pronunciation. But, from this advantage hospital patients are excluded by the expense.

So far we have been engaged with a case of "cleft palate," in which the malformation consisted only in the division of the velum palati without any complication. The second case of imperfect palate, which was under your observation at the same time with the foregoing one, comes now to be noticed. This is its history, abridged from Mr. Gay's report in the Case-book:—

J. W., a female, aged 23, admitted into hospital on account of a congenital deficiency in the palate. When an infant, during the act of sucking, the milk used to pass into her nose. She could not speak at all until she was two years old, and then very indistinctly. In her childhood she was able to whistle and sing a little, and could blow out a candle. She could not, and cannot now, pronounce the letters *g, h, j, k, q, t*; but still she speaks with tolerable clearness. Her general health has not been very good. She has suffered some years from irregular menstruation.



The appearance of the soft palate is represented in this sketch.

The soft palate is entire at its middle, but the uvula is fissured, the two parts hanging close together, and at the upper end there is an oval opening measuring more than half an inch in length. At each side is an elongated elevation upon the surface of the velum; this, at first sight, seemed to me to result from increased thickness, owing probably to the presence here of greater amount of muscular substance; but on examining it with the finger, I came to the conclusion, that the appearance arose from a degree of looseness in the part, caused by the position into which it fell when under examination. Except at the lower part of the uvula, the whole structure was much thinner and paler than usual, and this condition was especially apparent at the edges of the oval opening, which seemed to be formed of nothing more than the double mucous membrane.

The back part of the hard palate is defective, being widely notched up to within an inch and a half of the incisor teeth. The patient states, that the opening in the velum was originally round, and about the size of a pea, and that it had no more than this size till about two years ago, when an operation was performed by a surgeon with a view to close it. According to her own account, she has since that time experienced more difficulty in pronouncing words. She adds, that while at all times she was obliged to be careful in eating, she has, within the period referred to, been compelled to be much more so; and now, unless she holds her head up when in the act of drinking, the fluid passes into her nostrils.

The Treatment of the Case.—A single suture was passed through the uvula after the edges had been pared. The parts became united in a couple of days without any difficulty. At a subsequent period, a stopper of India-rubber—"obturator," as it is termed in more dignified language—was inserted into the aperture, and the patient then left the hospital. Two months afterwards, the following entry was made in the Case-book:—"She attended for inspection this morning. She cannot keep the stopper in its place for more than four days at a time, her mouth then becoming sore; she has no difficulty in removing and replacing it. Her pronunciation is evidently more distinct. She can pronounce all the letters that she previously could not, with the exception of the letter *t*."

To judge the better respecting the peculiarities presented by this case, it should be understood that the variety noticeable in the malformations of the palate usually consists in the more or less extensive deficiency of the hard palate, whereby the nasal fossæ open into the mouth; the soft palate being at the same time cleft, and its parts wide asunder in their whole length. These preparations are different degrees of the deformity.

Comparing with these the palate in the case of J. W., the deformity is at once seen to be altogether different in kind. The latter is, indeed, in some respects, very unusual, if not peculiar in its characters. The hard palate is defective at its back part, but unlike the condition in the preparations, the defect in the bone is only discovered with the finger, for the investing membranous structure being continued uninterruptedly across the roof of the mouth, it forms a complete barrier between the nasal and buccal cavities. Practically, then, the defect in the bone is of no material importance, as the process of deglutition, and the production of speech, would not thereby be interfered with.

But, as regards the imperfections of the soft palate, there could have been no doubt that the edges of the lower fissure might be united by suture, the parts being fully developed in all respects. On the contrary, the velum was so thin around the upper opening, that an operation would most probably fail in consequence of defective nutrition. All question, however, as to an operation on the part, was set to rest in my mind, by the consideration that there was here not a mere fissure or want of the union of parts otherwise complete, but an actual loss of substance. Under these circumstances, after the lower fissure had been closed, I advised the use of a simple form of obturator for the opening which still remained. But, had the soft palate been of the usual thickness, and had there been also no material loss of substance around the opening, sutures would have been applied with every probability of a favourable result; and, considering that in this case, a large part of the velum was perfect, it would not, in my opinion, have been necessary to attempt the division of any muscle. An incision to a considerable depth, outside the ligature holes, would, however, be useful on the principle explained at a former part of this lecture, viz., to diminish the effect of traction, and the consequent tension of the parts.

ORIGINAL CONTRIBUTIONS.

ON THE EMPLOYMENT OF ETHER AND CHLOROFORM IN CASES OF MIDWIFERY.

By CHARLES WALLER, M.D.
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The time appears now to have arrived, when a calm and deliberate opinion may be expressed, as to the safety or propriety of employing anæsthetic agency in the practice of midwifery. The intense excitement produced by the astounding announcement, that a female might be relieved from the pains and the perils of child-birth, by a certain and safe remedy, has, to a great extent, subsided, the charm of novelty has passed away, many authenticated cases, with their results, have been reported, and we are therefore in a position to form something like a correct judgment, inasmuch as we have *facts* upon which our calculations may be founded; and, although I unhesitatingly confess, that I have not considered it to be my duty to employ means of such acknowledged power, unless there were some very pressing necessity for their use; yet, as these

published facts become the common property of the Profession, I offer no apology for making the experience of others the basis of my own practical deductions.

And here I would observe *in limine*, that the observations I am about to make have no reference whatever to the use of anæsthetic agents where severe operations are required; I leave this to those more conversant with the subject than myself. The condition of the body, in a state of disease requiring a surgical operation, is, to my mind, so entirely different from that which generally obtains in the parturient female, that no analogy can be fairly drawn between them. In the former there is often great prostration of the vital powers, with a high and painful degree of nervous susceptibility as a consequence of such debility; added to which, the *fear* of the operation required has a most injurious effect, inducing the patient to postpone the dreaded occurrence, until the disease has assumed a most formidable character. Again: the *shock* of the operation, in such individuals, may retard or altogether prevent their recovery. It should also be remembered, that some chirurgical operations require to be performed with such extreme care, that an involuntary movement might be productive of serious mischief. This observation applies with more than ordinary force where an infant or a young child is the subject of such treatment. I do not, however, wish to be understood as advocating the use of ether or chloroform, indiscriminately before performing surgical operations, experience having demonstrated, that dangerous and even fatal effects have resulted from such administration.

Widely different, under ordinary circumstances, is the condition of the parturient female: in perfect health, the bodily powers not diminished by long-continued suffering, the pain not the result of organic disease, but merely produced by the altered physiological condition of the uterus, usually unattended with danger, although it may be severe and prolonged: the strength, recruited by intervals of comparative, if not of perfect ease. Under such circumstances, I apprehend that every man of prudence would pause before he exhibits a medicine which is occasionally followed by the most disastrous results.

Various objections have been made to the employment of anæsthetic remedies in midwifery; some of them scarcely tenable, whilst others are of more solid weight. Some have objected, on religious grounds, believing that the curse pronounced on our common mother, on her dismissal from the garden of Eden, "In sorrow shalt thou bring forth," was meant to be enduring; and that any attempt to alleviate the pain attendant upon human parturition was in direct contravention and in open rebellion to the will of the Almighty. I cannot support such an opinion as this, as, by so doing, I must of necessity deprecate the attempt to relieve any of the numerous "ills which flesh is heir too," all of which resulted from man's primæval disobedience. The words of our Saviour, "they that be whole have no need of a physician, but they that be sick;" and his constant practice of "healing all manner of "sicknesses" sufficiently answer such an objection as the one under consideration.

Whilst I thus express myself, however, let it not be supposed that I am satisfied with the "answer" to the religious objections first published by the Professor of Midwifery in the University of Edinburgh, and since acquiesced in by some in our own country. His attempt to explain away the generally received import of the Hebrew word *etzebh*, translated "sorrow," in our common English version, is, to my mind, exceedingly unsatisfactory. In noticing the circumstances under which the sentence was pronounced, he observes, "the curse" is triple. I am at a loss to conceive what punishment or "curse" could be implied in the words which the learned Professor considers to be the proper translation of the Hebrew word *etzebh*, "with muscular effort," or "with toil," shalt thou bring forth. In a great majority of instances this "muscular effort" is only required for a few hours at the most, and not continuously, but with intervals of rest from muscular effort, if not too long prolonged, is attended with pleasurable rather than with painful sensations. Again, I apprehend, that the distinct meaning of the "curse" may fairly be inferred by the effects which immediately followed its proclamation,—and what were these? In the first place, intense suffering. To prove this, it is only necessary to refer to the various texts quoted by the Professor himself, which clearly demonstrate, that, under almost an endless variety of circumstances, whenever a state of unusual suffering was described or predicted, reference was made to the state of a parturient female. The following expressions will suffice:—"Pains"—pangs"—"fear"—"anguish"—sorrows"—being "in sorrow, and crying out in her pangs."

But the puerperal period was, at this early age, not a state of suffering only, but a state of danger. Rachel died immediately after giving birth to Benjamin? But, some may say, why multiply these instances—who doubts their truth? I reply, simply to show that *mere* muscular effort was not intended, but that pain and danger immediately followed the utterance of the "curse."

Let us now inquire into the physiological effects produced by the inhalation of ether or chloroform, and carefully examine the results which have followed their exhibition, that we may arrive at a satisfactory conclusion regarding the perfect freedom from danger claimed by many who have advocated this course of proceeding. If it be proved, that in many cases, serious, dangerous, and even fatal symptoms have ensued, then it requires but little argumentation to convince a thoughtful mind, that urgent and pressing necessity can alone justify the use of remedies which are capable of producing such disastrous results—no one will deny that such occurrences have taken place: the time has gone by, when it can be said, "there is no evidence to show that the ether has any bad influence on the mother." But, what is the effect produced by these anæsthetic agents on the general system? The immediate effect of ethereal inhalation is twofold: in the first place, the contact of atmospheric air with the blood circulating in the pulmonary capillaries is prevented; but this is not all, for, in addition to this negative evil, of shutting out air fitted for the due and proper performance of the respiratory function, that which is positively deleterious is introduced in its stead, and, in point of fact, it is upon the action of this injurious principle that anæsthesia depends. The blood is charged with carbon, and becomes, at *first*, unfitted to sustain the actions of animal life; and, if the process be carried too far, or continued too long, the organic actions are similarly affected. In the one case, there is loss of sensation and voluntary motion; in the other, the respiratory and circulatory systems suffer, and death is the result.

In experiments upon animals I have noticed the three following results: first, agitation, amounting, in some cases, to convulsions; secondly, anæsthesia; thirdly, death, and this not preceded by any symptom indicating the approach of a fatal termination nor as a consequence of a long continued use of the chloroform. Can it with truth be asserted, that these results have only been witnessed in the inferior animals, and never observed in the human subject? Would that experience (the best of teachers) would warrant such a statement. The records of cases, published in our public journals, testify to the contrary; death has occurred after a very short inhalation, in some cases suddenly, in others preceded by convulsions. In my own practice, I have seen delirium produced of so violent a character as to render the patient for some time uncontrolable. In another case, a very "horrible feeling of oppression" about the præcordium was produced, attended with a feeling as though the "heart would burst," then followed unconsciousness. On her reviving from this state, the lower extremities were paralyzed to a considerable extent, and for the two following days this lady was unable to move about. This happened about two years ago, and from that period my patient informs she has never been in perfect health. In two other instances the attempt at inhalation produced such a feeling of suffocation that it could not be persevered in. Two cases of death, one during, the other immediately following labour, have been reported to me; another wherein serious hæmorrhage occurred. Dr. Montgomery states that in his own practice he has known the proper muscular action of the uterus for a time suspended.

I am fully aware that a ready, though somewhat flippant reply may be offered; it may be said, these cases were exceptions to the general rule, or the remedy was improperly administered, or that a too powerful dose was employed. All this, to a certain extent, may be true, but still the practical difficulty remains. I know that, where every reasonable precaution has been taken, hurtful and fatal consequences have followed, and this is sufficient to prevent *me* from employing these agents indiscriminately, and without a conscientious belief that of two evils I was choosing the least. Having proceeded thus far, it will scarcely be necessary to add, that in cases of strictly natural labour, where nothing is to be gained but unconsciousness of pain, and that at the risks before alluded to, I should never consider myself justified in making use of means which can only accomplish the object intended by reducing the patient to a state of mere organic existence by paralysing those portions of the brain from whence the nerves of sensation and voluntary motion derive their influence; and especially since the fact is well established, that occasionally the nerves of respiration and circulation are alike paralysed, when death must inevitably ensue.

It is extremely difficult to determine with precision what is the effect of this narcotism upon the action of the uterus. If we could credit the accounts which have been published from time to time, the following conclusion must necessarily follow: that the system generally, and the parturient organs locally, are made so remarkably tractable, that they accommodate themselves to the exigencies of the peculiar case, and to the wishes of the practitioner. Thus we are told, that under the use of chloroform the most opposite effects have been produced; in the one instance it will contract, in another it will relax; in a third, where everything is going favourably, no special action ensues. The inhalation is, therefore, proper, whether we wish to expedite labour, to prevent hæmorrhage, or to render the uterus quiet for the purpose of introducing the hand in cases of difficult turning. Again, it has been said that perfect insensibility on the part of the patient is a great boon to the practitioner in cases of instrumental midwifery, inasmuch as the operation is unattended with pain, and no sudden movement of the female will obstruct the progress of the delivery. During an extensive midwifery practice of nearly thirty years, I do not recollect ever to have been resisted by these movements except once, whilst on the other hand I cannot but consider that perfect susceptibility to pain may sometimes prevent the infliction of serious injury upon the maternal soft parts. The teachers of midwifery should remember, however simple and easy obstetric operations have become to them in consequence of their frequent performance, that their recommendations and opinions will influence the practice of those who have not, and never can have the same opportunities; and that what may be perfectly safe in the hands of the few, may not be equally so in the hands of the many.

As regards myself, I have a very decided objection to the use of chloroform in instrumental midwifery, especially where craniotomy is performed in the more aggravated cases of pelvic deformity, where it often happens that a rough edge of fœtal bone comes into contact with the soft parts of the mother, and to which the attention of the Practitioner is probably first directed by a complaint that "something is scratching." I must not, however, forget that the production of anæsthesia is destined to explode that barbarous operation, and that henceforth patients, whose cases require craniotomy, are to be placed under the influence of chloroform, the infant turned, and violently dragged through the

contracted pelvis; as if, with the loss of sensation, there would be no danger of injuring the soft parts by the exercise of any degree of force necessary for the accomplishment of the desired object!!

From the foregoing observations the following conclusions may be fairly deduced:—

1st. That the inhalation of ether and chloroform has been followed by injurious and fatal results.

2nd. That in natural labours no reason exists for the employment of a remedy, the efficacy of which is at least doubtful, and its action often hurtful.

3rd. That the action of the uterus is sometimes suspended; but the published accounts are so contradictory, that it is impossible to form an accurate judgment on this point.

4th. That the production of anæsthesia in operative midwifery is likely to be injurious rather than beneficial.

I will merely add, in conclusion, that the only cases which appear to justify inhalation are the following:—

1st. Where there is an unusual degree of nervous excitability and sensitiveness. I should, however, not be inclined to produce perfect insensibility, but should be satisfied with *diminishing* the powers of sensation.

2nd. Where there are severe muscular pains in the neighbourhood of the uterus, interfering with its action. This state has been well described by Dr. Power under the generic term "myopathia," of which he describes several varieties. In these cases I should recommend moderate inhalation, and not the production of perfect narcotism.

3rd. In very difficult cases of turning, some benefit might *possibly* be obtained, although in many instances, a dangerous amount of force might (unless great care be taken) be employed in extracting the child when the patient is in a state of insensibility.

Finsbury square, Oct. 27, 1849.

RESEARCHES ON INVOLUNTARY SEMINAL DISCHARGES, AND THE DISORDERS ATTENDING THEM.

(Continued from page 86.)

By H. J. M'DOUGALL, Surgeon, Fellow of the Royal Medical and Chirurgical Society, formerly House-Surgeon to University College Hospital.

In the following case, which I translate from the work of M. Donné, on the Microscope, the patient, a medical man, describes so fully and accurately the distressing mental feelings to which I alluded in my last paper, that I make no apology for relating it, as a prelude to cases of the same description which have come under my own notice. M. Donné's high reputation, as a microscopic observer, and his being, at first, opposed to M. Lallemand's views are additional reasons for drawing a case from such a source, as it cannot be suspected of prejudice. The details are related in the form of a letter, addressed to M. Donné:—"You promised me, my dear friend, to become the confidant of all my troubles. Do not expect the brilliant and dramatic misfortunes of a modern hero, of romance; I have only to recount one sad, continuous, monotonous, overwhelming misery. I shall not enter into a detail of the sufferings of my stomach; they are everything that you have ever observed, everything that you have ever read, and much more besides. But you cannot conceive with what unfortunate facility the sufferings of my stomach pass to my head, and how they disorder all my relations in life. Hence I suffer less still in the stomach than in the head. After sleep, I experience, for an hour at least, a sense of cerebral weight, with congestion, so nearly resembling drunkenness, as to have been mistaken for it. If I have taken food slightly too stimulating, I feel more or less intense general irritability, sometimes extreme, with itching in the skin, and especially the scalp, susceptibility to the slightest light or least noise continued anxiety and agitation, unfortunate inclination to quarrelling and revenge, furious rage on the least contradiction, and nightmare instead of sleep. This is not a fanciful picture, but a faithful portrait. If I have, on the other hand, taken food a little too mild, I fall into a deplorable state of depression,—a great body without a mind; and when one of the attacks of hunger to which I am so subject comes on, I experience pain and deep exhaustion, as though my being were dissolved. After such violent attacks, so frequent during so many years,—after the sad isolation in which I have lived,—how can my brain have escaped being injured, exhausted, paralysed? Hence, heat and cold, drought and damp, all are to me jarring and painful. I have also moments when everything enrages me. At the least trouble I become suddenly flushed, trembling, and stupid. My intellect vacillates like my motions; and this embarrassment, of which I am ashamed, and which I cannot conquer, increases still more if any one observes me. On these occasions I might indeed be taken for an imbecile and a coward. . . . . Believe me, it is very sad, and very humiliating, to feel all one's faculties, when most required, and notwithstanding every effort to retain them, escape suddenly, and to feel oneself falling into such a state of imbecility at the age of firmness and vigour. The idiot, at all events, has no knowledge of his idiotcy. . . . . If my sufferings pass rapidly from my stomach to my brain, they are transmitted no less rapidly from my brain to my countenance. Everything which deranges my stomach and brain, disorders my countenance also. If exposed for a short time to sharp cold, my features become contracted, and my whole face resembles a vast chilblain. After great heat, when the air is overcharged with electricity, especially after fatigue, my features show disorder and agitation with congestion. In damp weather they are pallid, and show my depression. During the short intervals my attacks grant me, my countenance appears jaded, with an air of timidity and stolid awkwardness. This expression of face follows my disease as its shadow attends my body. It appeared and developed itself with my malady, and will yield and end only with it. Wherever I go people laugh and point at me. I hear indirect mockery uttered around me, and must unceasingly submit to a thousand marks of contempt sufficiently evident for me not to be able to avoid seeing them, but not evident enough to permit of my being revenged. It is true, that these mockeries, like the physical disorder, belong to my disease, for I have always noticed the three circumstances—disease, physical disorder, mockery—follow constantly in the same order, and with the same variations. The appearance of misery and awkwardness must be striking indeed, that so many people should receive so powerful an impression from it, and that they should manifest that impression immediately, spontaneously, and as if the same idea had animated them. All these mockeries render me more susceptible of ridicule and more ridiculous."

I need not make any further extracts to complete this picture, at the time of writing which, the patient himself was not aware of the cause of his disorder. This it was reserved for M. Donné to discover and to treat.

The following case is that of a young man, twenty two years of age, also studying medicine. Premising that he contracted the habit of masturbation at school before puberty, and subsequently practised it frequently for about three years, I give his own description as contained in his consultation letter. After various unsuccessful attempts and numerous relapses, he succeeded in abandoning masturbation. He says:—

"This was more than three years since, and precisely as I discontinued engineering, and entered the medical profession, my more serious troubles began. I had a long-continued illness, with ague, and then another, of neuralgia; but a visit to the country restored me for a time. I began to suffer more and more from involuntary emissions. Last summer I returned into the country, to prepare myself for the then coming winter session, and, in apparently good health, I went to London. From the first day until Christmas I worked *very hard*, both in the dissecting-room and in my own rooms. A fortnight after entrance, I was seized with an alarming giddiness at lecture, and was obliged to leave the theatre. It threatened to return once or twice, but I did not allow it to interfere with my plan of study. Shortly before Christmas, my nervous system evidently began to give way. I got so morbidly sensitive as to fancy, (in spite of my better knowledge,) that a merely casual remark at lecture applied to my own case, &c. All at once, if I caught a student's eye wandering to me, I have felt the colour flying into my face. At dinner it was worse, and I knew it to be a matter of observation. In brief, Sir, I can give you no idea, nor can I bear to recapitulate the misery I suffered. I missed lectures, *read in-doors*, and walked vigorously for an hour before dinner. Still I was very little better, and suffered occasionally from dyspepsia. I have passed the summer at home with very little benefit. The nervous affection of the heart returns, and I seldom feel *well*. I am distressingly irritable at times,—have no great appetite,—suffer much from dyspepsia,—have a constantly irregular pulse,—a peculiarly disagreeable sound, as of a distended vessel, in the neighbourhood of the right auditory canal. Dizziness, languor, *muscæ volitantes*, also contribute to make me wretched. My personal appearance is but slightly improved; but, worst of all, the atonic condition of my genital organs is the same, or, if I may judge by the frequency of involuntary emissions, my state is worse than ever. I have *entirely renounced* the habit of masturbation for a long time."

The above is one of the common cases, in which immediate ill effects do not follow masturbation. The patient acquired the habit before puberty,—by no means an uncommon circumstance, and, in my opinion, very pernicious in its after effects,—and continued it for several years, when the involuntary emissions commenced, after which his health first began to be seriously affected. Probably the alteration of his habits, from an active life to a course of close study, assisted materially in deteriorating his health.

In another case, masturbation for a short time, followed by severe study, had most injurious effects. The patient, who had taken high honours at a public school, after describing his bodily sufferings, and deploring the loss of his sexual powers, expresses himself as follows:—

I complain more of my mind than of my body. I am perfectly apathetic, and am subject to a most overwhelming timidity in company. I am in a wretched state always at meal times. I never speak a word, but yet I like to have some one in my room to talk to. I have never been into society at all, which probably is the reason. *I cannot look any one in the face steadily*, and am very much afraid of contempt or ridicule. I have no energy to do anything, and no resolution."

In another case, the patient, a clergyman, exhibited the restlessness arising from spermatorrhœa, in a very marked degree. The origin of the complaint was masturbation in this case also, and the patient complained of being constantly persecuted by a feeling of the deepest and most acute remorse. He could not remain five minutes in the same occupation, and, from his attacks of passionate bewailment, he was a source of very serious uneasiness to his friends. He never slept at night, sleep being partly kept off by the great irritability of his bladder, which required relief every hour at least.

It is astonishing, how rapidly, in these well-marked cases, all the mental symptoms disappear after the arrest of the pollutions. Indeed, in some cases, their previous condition becomes almost a matter of unbelief to the patients after recovery. In the last case to which I have alluded, the patient, in whom I was much interested, and of whom I saw more than is usual in such cases, coolly looked back on his condition after he had recovered, and discussed what he remembered of his feelings, and the motives of his actions. He admitted that he had frequently thought of ridding himself of existence by suicide, but that he had not sufficient moral courage to perform the fatal act. I believe this state of feeling to be by no means uncommon.

I might add extracts enough, from cases either drawn up by the sufferers themselves, or entered in my note book from their dictation, to fill a whole

number of the *Medical Times*. There is, however, a great sameness in such statements, and I think sufficient has already been brought forward to illustrate the chief points to which I called attention in my last communication.

In my next, I shall consider the effects produced by spermatorrhœa on the stomach and intestines.

PROGRESS OF MEDICAL SCIENCE.

FRANCE.

(From our Paris Correspondent.)

Our Medical Session commenced yesterday, under more promising auspices than could have been expected, after the distress and agitation of the last two years. The attendance of pupils was much greater than we had anticipated, and the number of distinguished practitioners, from all quarters of the capital, helped to fill up any vacancies which were left by the timid or tardy students.

The official programme of the Faculty is generally, as you know, simple in the extreme—an opening discourse by one of the Professors, closed by a distribution of prizes.

On the present occasion the usual routine was slightly interrupted by the reading of a letter of excuse from M. Dumas, whose recent appointment as Minister of Commerce prevented him from being present among his brother Professors. This letter, in which a just tribute of praise was freely bestowed on the students for their admirable conduct during the cholera, was received with enthusiastic applause.

The opening discourse of M. Denonvilliers was exclusively devoted to the eulogium of Professor Blandin, removed by a premature death, in the fiftieth year of his age, on the 16th of April last. Blandin was one of the few eminent men whose names still continued to render the Parisian school illustrious, after the irreparable losses of the last ten years; and we look in vain, amidst the rising generation of young surgeons, for one who may worthily fill his place.

M. Berard, the new Dean of the Faculty, delivered an interesting discourse on the proposed changes in Medical Institutions, alluding more particularly to the threatened attack on the "Concours," to the abolition of officers of health, and to quackery. He would ever defend the Concours as one of the principal causes of the eminence which the French School of Medicine had attained. Though retired from practice, and, consequently, a disinterested party, he was prepared to insist on a law for the protection of legally-qualified medical men from the plague of charlatanism. Finally, he was also prepared to support the project for suppressing the second order of Practitioners in France, although such suppression must be a fatal blow to the preparatory schools of medicine. M. Berard then explained the measures which he had employed for obtaining recompenses for the students distinguished during the cholera. No solicitation, indeed, had been requisite, and the Minister had shown himself so liberal that the Dean thought it prudent rather to moderate than excite his munificence. One interne received the cross of the legion of honour; fifty pupils were decorated with medals, and three, in addition to the medal, received their inscriptions *gratis*.

This discourse of the Dean, who appears to be as popular amongst the students as Orfila was detested by them, elicited marks of universal applause.

But the honours alluded to by Professor Berard are not the only ones which have been distributed to the members of the Medical Profession for cholera service. Professor Rostan, M. Merlier, M. Boudin, of the Roule, and M. Worms, of Gros-Caillou, have been promoted to the rank of officers of the Legion of Honour; six military surgeons and two apothecaries are named as chevaliers twelve physicians, one from each of the twelve arrondissements, are likewise decorated, and 782 medals have been distributed amongst physicians, students, Sisters of Charity, and other persons whose conduct during the epidemic appeared to merit reward. It is an example worthy of imitation amongst you, and the opportunity is propitious; but in England, for some reasons difficult to discover, no one is thought worthy of a distinction unless he has worn epaulettes.

The cholera, I regret to say, still continues its ravages in the south of France and in Africa. I have just seen a letter from the Director of the Military Hospital at Oran, in which it is mentioned that 400 patients and 29 infirmary attendants have already been cut off by the disease. The Spanish attendants refuse to bury the dead, and it has been necessary to send for the soldiers under punishment in the condemned companies, to perform this last duty.

SELECTIONS FROM FOREIGN JOURNALS.

PHYSIOLOGICAL AND PATHOLOGICAL INQUIRIES INTO THE NATURE OF PHLEBITIS.

By Dr. C. A. MEINEL.

The specific characters of phlebitis are very imperfectly understood.

Fourteen experiments on this subject were made by the author at the Physiological Institution of Gottingen, under the direction of Professor Vogel. They consisted in the section of the veins, in the injection of different substances into them, (water, starch, sand, pus, &c.,) the introduction of foreign bodies, (as pieces of wood, wire, needles, quills,) and in irritation of the walls of the vein, or pricking it by a wire.

Dr. Meinel considers, that the anatomical researches of Professor Henle are too minute in a pathological point of view. The external coat of the vein is cellular, containing vessels and nerves. The middle tunic is produced almost insensibly from this, and is formed by elastic fibres disposed transversely (the annular or circular coat). On examining more interiorly, the number of the elastic fibres of the vessel diminish in number, and are replaced by fibrillæ united to the cellular tissue, assuming a longitudinal direction; this is the internal tunic which seems in some degree amorphous. As for the epithelial membrane, according to the Author, it is only seen in the recent vein immediately after death, and does not appear all throughout.

It is generally agreed, that the nutritious vessels penetrate as far as the middle tunic; but in a small degree, and without forming any capillary network; they simply follow the course of the fibres. Vessels, whether in the sound state or in the diseased conditions of the veins, were never seen by Meinel, which agrees with the observations of Henle, Vogel, and others.

Our author raises his voice against the pretended analogy between the internal membrane of vessels, and the serous tissues; for the latter are formed by an ample cellular tissue permeated largely by vessels and nerves. Nothing of the kind is to be discovered in the internal coat of the blood-vessels: it is, therefore, a fallacy, to assume this analogy, as illustrative of the facility of inflammation of the internal coat.

Avoiding the discussion of what is meant by inflammation, our author submits the two following propositions for our consideration;—

1. What are the changes undergone by the various tissues during the morbid process, termed inflammation?

2. What is the nature of the exudation in the interior of the vessels?

In answer to the first proposition, it is useful to consider attentively, the changes in the wound made by venesection. Our Author recites the various researches made on this topic, and in particular those of Trousseau, and Pigot, so early as 1827; and he asserts, with them, that in wounds of the veins, the internal tunic is altogether passive; that it never exhibits any injection nor change in texture; that it is not in the least degree involved in the process of organization, which is effected solely in the coagulum and the walls of the external tunic. These observations were confirmed by experiments on various animals; the internal tunic was invariably found by him uninjured, even by the action of the most powerful irritants, while the cellular membrane, and the exterior laminæ of the middle tunic, were observed to be red, swollen, and softened; often, indeed, it was easy to detach the middle and external tunics from each other, a sufficient proof of softening. The internal coat, therefore, can never be said to be the subject of inflammation.

The remarks just now made supply an answer to the second proposition; for, if there be no inflammation in the internal tunic, how can there be any exudation in the interior of the vessels? The Author replies in the negative, for he does not allow that the matter exuded as a consequence of inflammation of the cellular tissue, could pass by exosmose or by capillary attraction into the channel of the vessel.

After the preceding remarks, it is impossible, our Author observes, to consider phlebitis as an inflammation of the internal coat of the veins, accompanied by exudation into the interior of the vessel, and, finally, as a poisoned condition of the blood. But, this negation is insufficient: as the inquiry is to determine how these changes, which are effected in the venous blood arise, and the relations which subsist between them, and the changes in the coats of the veins. We are impelled to admit a primary condition of the blood—a peculiar diathesis, and to hold the phlebitis as altogether secondary. Rokitansky is of this opinion, and many of the French school. Doctor Meinel, however, goes further; he even denies this distinction of the celebrated pathologist of Vienna, believing that the false membranes, the fibrinous concretions, and the pus met with in the veins proceed directly from the blood. The production of false membranes, for instance, is explained satisfactorily enough, they are immediate metamorphoses of the fibrine; and are effected in the same way as obliteration of an artery. It is also according to the same laws that the fibrous laminæ are produced, which are discovered between the two layers of the arachnoid in cases of intrameningeal apoplexy.

In all the cases there is no occasion whatever to admit the intervention of the walls of a cavity in which these deposits may be formed.

One of the facts which more especially lead to the adoption of the term phlebitis, in the legitimate sense of the term, is the existence of pus in the vessels. It has been long a prevalent opinion (in which many individuals at present concur) that the appearance of pus necessarily establishes the existence of previous inflammation. But this inflammation does not take place, and yet the presence of the pus is indisputed. The pus cannot be derived from without; in several of the illustrations given by the authors, the veins opened into a purulent deposit, and still the vessel was full of blood. Again, it cannot be conceived that the pus, with its large globules, has permeated the walls of the vascular membranes. Dr. Meinel, confining himself to the determination of the anatomical fact, shows that the fibrine of a clot, within a vessel, is converted into pus, under certain conditions, and in a specified time. The first of these propositions was ascertained by Vogel, who opposed the views of Donné and Gendrin, that the blood corpuscles themselves were transformed into purulent globules. Gluge and Rokitansky followed Vogel, and referred to a particular kind of fibrine, named *croupal*, this disposition to pass into pus. By the use of the microscope, Kœslin and Nasse have given further proof of the fact.

The decomposition, or rather the solution of the fibrine, precedes the production of the pus; it passes into a matter highly granular, amorphous, containing masses of varying size. This is the incipient stage of the production of the pus; the solution of the fibrine being a preparatory step to the generation of pus.

The subsequent facts which appear to bear upon the question are these:—

1. The absence of the phenomena of inflammation.

2. The fact, that almost invariably the softening

which precedes the solution of the fibrine commences in the centre of the coagulum.

3. The appearance of pus in the middle of the fibrinous clots found in the pulmonic heart, without any purulent production in the rest of the body.

A remarkable case is given by the author of these fibrinous concretions of the heart, discovered in a female after phthisis. Both ventricles were full of coagulated black blood. After removing these clots, there were found, only however in the right ventricle, white clots composed of pure fibrin, but not in any way adherent to the substance of that organ. They were soft in the middle, and formed of a finely granular amorphous matter, containing much fat, fatty globules free or conglomerated, a mass of rounded granules, and pale round cells, of the size of pus globules, but having only one nucleus.

In the further explanation of the changes undergone by the cellular coat, our author remarks that the functional disturbance which that membrane suffers is the chief cause of the change of its structure. The explanation will be readily understood, if it be admitted with Naumann, that inflammation is "the sudden check of the normal nutritive process." As to the cause which excites this functional disturbance, we must look for it in the coagulum within the vessel.

The chief results of the author are embraced in the four following propositions:—

1. The internal membrane of the vessels is not susceptible of inflammation; it is destitute of blood vessels; as an elementary tissue of a very low degree of organisation, it is liable to other laws of the nutritive process.

2. Wounds of the veins heal independently of the internal and middle coat, by inflammation of the cellular tissue, and by the partial organization of the clot external to the vessel.

3. In the case of phlebitis, the cause which affects in so injurious a manner the current of the blood does not originate in the walls of the vessels. The clots and fibrinous concretions termed inflammatory false membranes, ought to be deemed as deposits from the fluid blood which subsequently coagulate.

4. That constitution of the blood, which, in its early stage, determines these coagulations, explains, when in its advanced state, the presence of these masses of purulent matter found within the veins, and likewise affords the *rationale* of the purulent accumulation, noticed in the most marked *pyemic* affections on the surface of serous or mucous tissues.—*Gazette Medicale.*

ON THE CHANGES WHICH THE BLOOD UNDERGOES IN CONSEQUENCE OF EXTERNAL INJURIES.

By Dr. ZIMMERMAN.

The matter discussed in this paper, is for the most part novel. The observations of Andral and Gavarret, with those of Popp, are all we know on this question. The experiments were made on dogs. The following were the results:—

Consequent on slight external injuries or chemical irritation of the integuments, the blood is always changed, the amount of its solid particles being diminished. In one case, for instance, 1000 grammes of blood of the jugular vein contained 198·7 of solid matters; and in 1000 grammes of serum these amounted to 88·3. Three days afterwards, the blood in the jugular vein contained 171·6, and the serum 83·6 parts. The loss of the solid particles in the serum was not in the same proportion as in the solid matter of the blood. The decrease was chiefly in the globules, the ratio of which, prior to the experiment, was 119,037, but only 93·150 after. The amount of fibrine had increased—being, before the trial, 2·069; and after, 2·350. After wounds the quantity of fibrine always increases, but it diminishes some time afterwards.

Further, the blood is not merely modified as to the quantity of its constituent particles; but its character is changed. Hence the colouring particles show a greater disposition to attract each other. The colourless particles also attract each other, and agglutinate; and the young cells, not yet developed, exhibit the same attractive force. As regards the fibrine, it coagulates more slowly. If in consequence of a wound, suppuration ensues, and the animal suffers from a purulent and bloody discharge, attended with fever, the amount of fibrine is still more increased, (3·580 fibrine, 70·500 serum, 14·820 blood corpuscles,) and the fibrine in that case coagulates slowly. The serum presents a striking appearance; at first clear, it becomes suddenly clouded by the production of a great number of fatty particles.

THE PANCREAS OF FISHES.

Until lately a glandular pancreas has not been found in those fishes which possess appendices pyloricæ, whence these latter structures have been regarded as their equivalents.

This was universally believed until Alessandrini found both existing together in the Sturgeon.

Muller announced the presence of a glandular pancreas in the Lota, but afterwards retracted the statement.

More recently Wagner stated, that in the Trout a glandular pancreas co-existed with numerous pyloric appendices. But no other details (as to its duct, &c.) having been given, the statement remained unnoticed.

Without knowing of this, in March, 1846, the Author discovered a glandular pancreas in the Salmon and Turbot. He announced his discovery orally to Muller and Schultz, the former of whom had recently been able to confirm the truth of Alessandrini's statement. On continuing his observations, the Author was able to verify a glandular pancreas in many of the native fishes provided with pyloric appendices. The details of these observations are contained in an Inaugural Dissertation by Dr. Brockmann, "De pancreate piscium." The following are the general results:—

1. A glandular pancreas exists in Salmo Salar (the Salmon), Clupea Harengus (the Herring), Gadus Callarias, Cottus Scorpius, Perca-Fluviatilis (the Perch), Pleuronectes Platessa and Maximus, Belone Longirostis, and Cyprinus Brama (the Bream). Some of these have the appendices; in others, as Pleuronectus, they are abortive; finally, in Belone and Cyprinus they are altogether wanting.

2. The pancreas of the Salmon is broad, thin, and composed of numerous lobes; it is solid, small, and compact in the Sturgeon, the Perch, and the Sole. In the Belone it is broken up like a bunch of grapes, the stalks of which would represent the numerous efferent ducts.

3. In the Sturgeon, Perch, Bream, and Pleuronectes maximus, the short pancreatic duct enters the duodenum close to, but separate from, the bile duct. In the Salmon and Pleuronectes platessa, it is longer, and apparently united with the bile duct; but more exact observation shows the latter apparently single duct to be composed of two tubes, the bile and pancreatic duct, closely united to each other. In the belone, the two ducts really unite, and open into the duodenum by a common aperture.—*Professor Stannius in Muller's Archiv.*, p. 405.

QUARREL IN THE FRENCH ACADEMY.

Rather a fierce quarrel has arisen in the Parisian Academy of Medicine, between M. Levy, the author of a clinical and statistical work on Cerebro-spinal Meningitis, and M. Gaultier de Claubry, one of the Commission, to whom the work was entrusted. On the 3rd of October, M. Gaultier de Claubry read a long Report, stating, that M. Levy's work was deserving of commendation, but was not founded on sufficiently minute observations. M. Levy has indignantly protested against this opinion, and Begin and Piorry who were the other members of the Commission, declared that M. Gaultier de Claubry had never consulted them in drawing up his Report, and that they disowned it. Thereupon ensued a very pretty quarrel. We shall give a short analysis of M. Levy's paper in our next Number.—(*Gaz. Med.* Oct. 20, and *L'Union Med.* Oct. 18.)

ABSORPTION OF EFFUSED SEROUS FLUIDS DURING CHOLERA.

At a late meeting of the Société Medicale des Hopitaux de Paris, numerous cases were given in which the effused fluids of ascites, pleurisy, and anasarca had disappeared rapidly during an attack of cholera; in one case mentioned by M. Gillette, ascites, consequent on liver and heart disease, disappeared during cholera, and re-appeared after convalescence. M. Gendrin published a case of this kind in 1832. In this country the fact of absorption of dropsical fluids has been noticed, and would seem to imply that absorption is not so rapidly diminished, except in so far as the intestinal mucous surface is concerned, as has been supposed. M. Hourteloup has observed, that encysted dropsy of the ovary is not thus dissipated.—*L'Union Medicale.*

RESOLUTION OF INFLAMMATIONS DURING CHOLERA.

A case in which pneumonia appears to have been cut short by cholera, has been given by M. Tardieu. M. Bouvoir has related a case in which the symptoms were only suspended, and returned when the cholera had ceased. The expectoration was at once suppressed. M. Valleix has seen pneumonic patients attacked by cholera. There was no rapid abatement of the pneumonia, but gradual improvement after three or four days. In two cases which occurred to M. Gillette, the pneumonia seemed totally unaffected by the cholera.—*L'Union Med.*

DEATH FROM CHLOROFORM.

Another death from chloroform has lately occurred in Paris, and has been reported by M. de Confevron. The patient, a woman of 33 years, who had been some time before etherised without ill effects, inhaled chloroform previous to the extraction of a tooth. The chloroform was given very carefully and slowly. After insensibility had been apparently produced, the operator was about to commence, when the patient perceiving herself not sufficiently affected repulsed his hand and made signs for more chloroform. She pressed the handkerchief to her mouth, and made four or five deep inspirations. Almost immediately the face became pale, the face contracted, the pupils horribly dilated, the teeth clenched, and the head thrown back. Ammonia, galvanism, artificial respiration, and other means did not restore her. On *post-mortem* examination no structural disease was discovered; the cerebral vessels were congested; in all the larger veins at the base of the cranium there were many bubbles of air. The left auricle of the heart contained black fluid, in which also were air bubbles. The large veins contained black fluid blood. M. Confevron refers the bubbles of air to the strong insufflations he practised; he considered the death to have resulted from the directly noxious influence of the chloroform upon the nervous system.—*Gazette Medicale*, Oct. 20.

MUSCLES IN THE SIGMOID VALVES.

M. Monneret has described the muscular fibres seated in the sigmoid valves of the aorta and pulmonary artery rather differently from most writers. He makes two sets, antagonistic of each other. One muscle, visible to the naked eye, passes from the superior angle of the valvule, and descends to interlace with the fibres coming from the other side. The function of this muscle is to raise the valvule. The other muscle runs from the free to the attached border of the valvule; the fibres are very fine, and behind the corpus aurantii very numerous. Its function is to depress the valvule. The fibres of both are pale and unstriped.

M. Majendie denies these functions to the muscular fibres, and contends that the valves are raised and depressed solely by the mechanical force of the blood. M. Monneret has deduced the functions of the glands merely from their apparent course and attachments.—*Gaz. Med.* Oct. 20.

SUGAR IN CHOLERA PERSPIRATION.

M. Pousson has, like M. Doyere, found sugar in the sweat of an old woman dying of cholera. It was easily detected by the copper test. It appears however that the sweat was taken from the face, and that the patient had been drinking sugared liquids, so that there may have been a fallacy.—*L'Union Medicale*, Oct. 18.

RESPIRATION AND ANIMAL HEAT IN CHOLERA.

M. Doyere has recently presented some observ-

ations on the above subject to the Academy of Sciences. They are the result of more than 300 analyses of the air expired by cholera patients. The author remarks, that if we consider the relation between the development of animal heat and the composition of the expired air, we must distinguish two well marked periods in Asiatic cholera. In the first period these two classes of phenomena bear a direct relation to each other: in the second period, this relation becomes inverse.

The first period is the cold stage, when it leads speedily to death, or to rapid convalescence. During this stage, the proportion of carbonic acid contained in the expired air constantly falls, and sometimes in a very remarkable degree; but the fall is not uniform: it undergoes many oscillations. The limits of the diminution are between 10 and 20 per cent. of the normal quantity. The cases appeared to be more dangerous, and death imminent, in proportion to the low degree of carbonic acid in the air of expiration. Thus, in one case, which terminated most rapidly, the carbonic acid was reduced to a three-thousandth (3·1000) part. The second period, according to M. Doyere, is that which precedes death by one or two hours; in fact, it is the agony. Here the proportions of carbonic gas expired, and of animal heat developed, are in inverse ratio to each other. The absolute quantity of the gas falls as before, but the animal caloric rises in a most striking degree up to the very moment of death The rise of animal heat may be general, or confined to some internal region; or to an external region, such as the axilla, back, &c. Generally it does not exceed 1° or 2° Cent.; but, in one case the author noticed a development of animal heat from 37° to 42°.

In another case, that of a woman whose body had been exposed in the dead-house for six hours, without any other covering than a sheet, the heat of the interior of the pelvis was 41·7°, while the skin of the chest gave a heat of only 33·4°. Five hours previously to the death, the heat of the axilla was 37·2°, while under the masseter it was 29·4°. The heat of the room was about 23° or 24°.

The above observations are calculated to explain the popular belief relative to the body becoming hot after death *from cholera*. The author does not think that this ever occurs; but that the animal heat becomes displaced from one part of the body to another, and thus gives rise to the error. In all the cases which he examined, the rise of temperature, when once begun, continued up to the moment of death; the heat then remained stationary for fifteen or thirty minutes, after which it fell. The most careful analysis of the expired air did not lead to the discovery of any other change than that in the proportion of carbonic acid now indicated.

Death of Edgar Poe.—The papers announce the decease of Edgar Poe, at Baltimore, United States, on the 7th of last month. Mr. Poe was known in America as an author and a poet; the Medical Profession in this country are more acquainted with his reputation as a mesmeriser. A strange pamphlet written by him was republished in this country a few years ago, in which he detailed the results (?) of his mesmeric experiments on a dying friend. He stated that, having been long desirous to ascertain the effects that would be produced by such a proceeding, he applied to a strong-minded friend, who was dying from consumption, and obtained his consent to the experiment being practised on him. Having ascertained from his medical attendant that death would occur in the course of an hour or two, he began the mesmerising process, and succeeded in producing the mesmeric condition. While in this state death is said actually to have occurred, and to have been announced by the corpse himself. The process of putrefaction was kept at bay, according to Mr. Poe, by the mesmerising agency, and the body remained fresh and undecomposed for a lengthened period of time—we believe about a year; but not having the pamphlet at hand, we are not certain. The demesmerising process was then commenced, and carried through; on the completion of the last pass, the body be- [illegible]

credit can be given to the statements it contains.

Complaints having reached us of the irregular delivery of the Medical Times *in the country by the Booksellers and Newsmen, we state, for the information of our readers, that this Journal is always published early on Friday afternoon, so that it may reach the Provinces by post on Saturday morning.*

Correspondents are requested to address their Communications to "The Editor of the Medical Times, *147, Strand."*

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THE MEDICAL TIMES.

SATURDAY, NOVEMBER 10, 1849.

Some future Macaulay, two centuries hence, may possibly attempt to trace out the impression which the gradual progress of commerce and manufactures has made on the social condition of our poor. The attempt would be easy now to us, under whose eyes the system has been developed; it will be almost impossible to the Macaulay of the 21st century, who can but excavate half-obliterated images from the buried monuments of former eras, and, with delicate but erring chisel, retrace the faded lineaments. But, if he be able to attain to anything like real knowledge on this subject, he may sum up the results of this investigation somewhat as follows:—

"In the year 1848 the unprecedented commercial activity of the preceding century had borne its fruits. The age of great cities had commenced. London, Manchester, Liverpool, and Glasgow had shot up like Jonah's gourd. In the morning, it was a seed placed in fertile earth; in the evening, a large tree in which the fowls of the air roosted. The wealth of these cities astonished the world. The people symbolized the abundance of riches by saying that the streets were paved with gold. The desire for wealth grew with the wealth itself. Unbounded efforts were made to add to the already fabulous store. Trade and manufactures were carried on with an energy unknown in the annals of mankind. The goods of England glutted the markets of the world. England was the gigantic money-lender to whom all nations were the bounden debtors. Yet, in the midst of all this wealth, there were signs which made men pause and tremble. From time to time, murmurs as of earthquakes rose from beneath this mighty structure, built so royally, and startled the dwellers in the upper air. The music of the feast was sometimes harshly mingled with the groans of distress and the curses of want. For, while the tree spread its stately branches to the sky, there was rottenness at its roots. The bulk of the people were no partakers in the national grandeur. The hovels of the poor formed a strange contrast to the palaces of the aristocracy, and the mansions of the middle class. The taxes of Government had enforced a rigid economy of light; the landlord had been equally penurious of his space; the great Water Companies neglected the districts from whose miserable inhabitants they could gain no profit. No sufficient means were taken to remove from the dwellings of the poor the refuse and offal, which are the breeders of pestilence. The dead, barely covered by decent earth, corrupted in the midst of the living. No superintendence was exerted over the retail dealers of food to the lower class. These men, as formerly, pursued their nefarious trade, and the poor, as formerly, suffered from their adulteration. Government dreaded to impede trade by legislating for manufactures, so, except in a few flagrant instances, the factories poured their refuse into rivers and sewers, and their smoke into Heaven's atmosphere. No care was taken to remove the unhealthy influences of unhealthy trades; therefore, in some towns, the average duration of life was fearfully reduced. The mortality of these large cities rose surprisingly over that of the open country. If an artisan left his native town to live in London, he gave up the chances of several years of life. The amount of sickness, entailing destitution and poverty, was immense. Thence ensued an enormous Poor-rate, which pressed heavily on the smaller shopkeepers. In some towns there occurred a frightful number of deaths among infants, and, on inquiry, it was found possible to refer this mortality only to the unhealthy influences to which these children were subjected, or to the prevalence of a fearful crime which human nature shrunk from contemplating. In the midst of all this, a wide-spread famine in Ireland hurled into the English towns the most improvident and careless class of Irishmen. In every large town, in Glasgow, in Liverpool, in London, the Celts crowded together and formed an Irish quarter. They brought into their new homes the recklessness, filth, and misery of their fatherland. They made the dirty and wretched inhabitants among whom they crowded, appear, by contrast, clean and comfortable. Beneath the lowest deep they disclosed a lower still. Their diseases followed them, and the spotted typhus tracked their footsteps like a gloomy shadow. At length the magnitude of the evil aroused inquiry. Earnest and powerful men laid bare the secrets of these lower grades of social life, and urged upon the Government the necessity of reform. In the midst of these entreaties, it began to be rumoured that that terrible sickness, than which none with more appalling features had ever afflicted humanity, had again commenced to pass from its Oriental birth-place towards our northern and colder climes. The approach of the Cholera, in fact, swept away the scruples of statesmen and the opposition of interested partizans. The Government determined to grapple with the grave circumstances of the case, and in 1848, that which was destined to be the great social revolution commenced—the Board of Health was constituted."

Such, possibly, may be the facts of the picture which the historian two centuries hence may, in language infinitely finer than our rude words, place before his contemporaries. And now, accepting these facts as true and un-

exaggerated,—and that they are so, is but too well known to those who have penetrated into the vile purlieus of this, or other cities,—let us return to the present time, and observe the measures by which the condition of our poor is attempted to be improved.

In 1848 the Public Health Act received the Royal Assent. The Government, in framing it, had met with extreme opposition from many parties who fancied that their interests might be affected, and from many individuals who, in their ease and luxury, refused to acknowledge as possible the frightful reports which were laid before them. Fearful of failing altogether, the Government, as usual, resorted to compromise, and a mutilated Health Act was placed on the statute-book.

Without entering into the details of this Act, suffice it to say that it is ineffective. The only part which is at present worked out, is that which relates to the making of sewers. It appears, indeed, as if everything else had been sacrificed to this; so imperfectly are the clauses worded respecting water supply, intramural burials, regulations of public buildings and lodging-houses, superintendence of factories, and trades. The great subject of adulterations of food is almost passed over—a single clause providing that bad meat shall not be sold. As might have been expected, since the passing of the Act, its incapability of dealing with the great questions at issue has been abundantly proved, and amendments which have been made in it have left it little better than before.

One compromise which was resorted to is so characteristic that we must refer to it. Instead of applying the Act to the whole kingdom, without reserve, the Government yielded to the opposition of the local authorities, and the Bill, as it passed the House of Commons, was to apply only to the towns which might, of their own accord, petition to be purified. Subsequently, in the House of Lords, a clause was introduced, we believe, by the Bishop of London, by which it was provided, that if the mortality of any town should exceed the proportion of 23 to 1000, such town should come under the operation of the Act. Now, inasmuch as the very principle of this clause was based on the supposition, that the improvements contemplated by the Act would reduce the mortality below 23 per 1000, the proposal to allow the mortality to reach 23 per 1000, was an absolute throwing away of mens' life. The parties who opposed the Bill were so far justified in their opposition, because they believed, or, at least, it is to be presumed they believed, that the Act would not produce the benefits its advocates contended. But that the sanitary Reformers, who affirmed that they could, even in the large cities, reduce the mortality to 20 per 1000, should have consented to this arrangement, is actually no better than being accessory to murder. They should have rejected the Bill altogether, rather than have admitted such a clause.

In the matter of sewers only did the Act appear to be efficient; and, even here, the mechanism was as clumsy as could be. The Act was empowered to make sewers in towns which petitioned, or whose mortality was more than 23 per 1000, except in the case of the City of London, the Metropolitan Commissioners of Sewers, and the Commissioners of the Sewers of the Regent's Park. Therefore, while all the rest of England was committed to the General Board of Health, the principal city which required more sewerage than any other, and which under the old system had been worse sewered than any, was exempted from the control of the Health Act. To lessen this difficulty as much as possible, the Metropolitan Commission of Sewers was re-organised, and the Members of the Board of Health (nominated by the new Act) were made the prominent members of a new Commission. By this compromise a certain amount of uniformity was apparently gained. The Board of Health, who superintended the sewers of York, of Leeds, or of Manchester, would also, as being Metropolitan Commissioners of Sewers, superintend a great part of the sewers of London. But unfortunately, from causes into which we shall enter at another time, the new Metropolitan Commission of Sewers came to an untimely end, and, when the Government reconstituted it a few weeks back, the Members of the Board of Health were excluded. The Board of Health then discovered very sufficient reasons why they should be altogether separate from the Commissioners of Sewers; although it may be observed that the same reasons were operative a year ago in respect of the metropolitan sewers, and are operative now in respect of all the other towns whose sewerage is, or is to be, under their superintendence.

But at the present moment, the original discrepancies are in full force. One set of people are to make sewers for the City of London; another for London without the City; a third for the Regent's Park; a fourth for some other parts of England; and Scotland and Ireland are presumed to do well enough without any sewers at all. From this system nothing but confusion worse confounded can be expected; and the only thing we can pray for is, that no unlucky and unusual desire to do their duty, may stimulate the several Commissioners of Sewers to any activity until the whole matter can be again fairly considered by the Legislature, and, if possible, a wise and comprehensive scheme be devised.

In reflecting upon this subject, it is apparent that the present failure of the Health Act is owing to two capital errors. In the first place, the thing admitted of no compromise. If the great principles of Sanitary Reform are true, everything must give way to them. There is no necessity that vested interests should be needlessly sacrificed, or that more changes should be introduced than are necessary; but still nothing should stand in the way of the rule, that where the interests of Landlords, of Corporations, of Water Companies, or of other parties, are opposed to, and are subversive of, the health of the people, those interests must be surrendered as being unjust, and pernicious to the public weal. It may be said, that the advent of the Cholera drove the Government to this Bill; and this may be admitted as an argument for them; although, be it remembered, that the Board of Health have, almost literally, been enabled to oppose no bar to the disease. For this we do not blame them; it was beyond their power, but it is ample proof that, after all, the compromise profited little.

The second capital error was in the choice of the men to administer the Health Act. Without disparaging, in the remotest degree, the present Members of the Board of Health, we must again express the opinion we have before avowed, that the Medical Profession, and of that Profession its most worthy members, are the only persons who can grasp the subject in all its width, assign to each condition its proper importance, and proceed, with the aid of the highest science, to the determination of the scheme which is to affect so deeply the social condition of this people.

Into the nature of this scheme we shall enter in an early Number. We may so far anticipate it as to state that the plans which have been hitherto devised, or in part acted upon by the Board of Health, have evidently originated from men who, whatever their abilities, are biassed in one particular direction. But partial measures to remedy the giant evils under which we labour can only be compared to those mounds of sand which children heap up on the shore to bar the progress of the sea.

THE CORONER FOR MIDDLESEX AND THE INQUEST ON MR. MORTON.

We announced last week the sudden and unexpected death of Mr. Morton, of University College. Since our paragraph was written, the disclosures of the Coroner's inquest have rendered more painful still, this painful subject. We cannot avoid lamenting, that the detail of the causes which led to this terrible suicide was permitted to find its way into the daily Press. The ends of justice did not demand, that the secret failings of this unfortunate gentleman, if he had any, should be made the subject of vulgar comment; that the confessions of a debasing vice which, acting on a temperament originally susceptible, impaired and perverted the faculties of so fine a mind, should be chronicled for the pleasure of scandal-mongers, and paraded before the world for the edification of its gossips. A single good result, may, however, arise from the publicity which has been given to the transaction. Should the implied charge be true, and the strongest ground for admitting the belief that it might have been so, is found in the declaration of the very man who heard the depositions,—that the unfortunate gentleman was the subject of *delirium tremens*,—we can then have no difficulty in conceiving what may have been the grounds on which the Council of University College refused on a recent occasion to promote this unfortunate gentleman. It is evident that the Council may have been but too well justified in the course they adopted; and when we remember the attacks to which, in consequence, some members of the College were exposed, we cannot speak too highly of the gentlemanly feeling and friendly forbearance, which would not permit the sacrifice of the reputation of a colleague by making known the real grounds on which they acted.

We should not have recurred to an event so little attractive to us, either as Journalists or as Medical men, had there not appeared, last week, a statement on this sub-

ject, in the pages of a Medical Journal supposed to be under the management of the very Coroner before whom the inquest on Mr. Morton's body was held, and by whom, therefore, those affecting and melancholy documents, which testified to the real cause of this frightful event, had been officially examined. When, after reading this Article, in which Mr. Morton's death, as well as the deaths of Potter, Liston, Thomson, and Cooper, were attributed "to the blighting influences of the atmosphere of University College," we turned to the columns of the daily *Times*, and found it there reported, as a remark of the Coroner, that the evidence before the jury "showed that a very small quantity of any spirituous liquor would produce these distressing symptoms in the morning—symptoms which, in fact, were those of *delirium tremens*,"—we had some difficulty in persuading ourselves, that the leading Article alluded to and the Coroner's Report, as given in the *Times*, referred to the same person. But when it became clear that they *did* refer to the same person; when we were satisfied that in a paper presumed to be under the direction of the Coroner, a statement had been inserted, to which the report of the Coroner's own proceedings in the Daily papers gave a direct denial, we did not know which most to wonder at, the bitter hostility which makes University College ever the target for its shot, or the ridiculous oversight which permitted the issue of an assertion to which the proceedings before the Coroner himself furnished a damning contradiction.

And when we reflected that Potter died from a dissecting wound, Liston of aneurism of the aorta, Thomson of a chest disease, and Cooper of gout and general decay, we were inclined to marvel at the variable effects of this "blighting atmosphere," which can kill in so many ways. Let us recommend the *ingenious* writer of the Article,—which we will not insult the Coroner by attributing to his really able pen,—to reflect whether this same "blighting atmosphere," which he has evidently inhaled in its proper locality, may not have exerted its baneful influence even upon *himself*. Possibly, as it has so many modes of action, it may not limit its effects to the physical health; perhaps, it may touch the moral. If a little obliquity, a little difficulty of distinguishing between right and wrong, truth and falsehood, have been thus produced, it would account to us for the very peculiar view which the Writer takes of the share which University College had in Mr. Morton's death. We should like to investigate this curious point, and may possibly recur to it more in detail on another occasion.

But to return, from the subordinate to the Coroner. We cannot hesitate to condemn in the strongest terms the conduct of this individual. Holding an office of no mean importance,—being called upon to exercise, if any man is, qualities of candour and truthfulness in those difficult investigations which fall under the jurisdiction of the Coroner, it would seem that he has yet penned, or permitted to be penned, and to be published in the paper under his control, a statement which, in effect, gives a false account of an investigation which he himself conducted.

We have another word to say in our capacity as Journalists. When Milton composed his magnificent "speech for the liberty of unlicensed printing," he did not overlook the fact, that men would arise who would use basely the liberty for which he prayed, and would turn the beneficent instrument of progress and civilisation into a weapon by the which they might hurl upon their nobler opponents the vile slander which *could* not be cast back. But Milton believed, and justly, that the licentious slanderer, and, as he termed it, the "lurking railer," would be held in check by the firm determination of honest and honourable men, to permit no unlawful tampering with the mighty instrument he sought to free from the shackles of authority and restriction.

And this is, indeed, the case. Sooner or later the censure of his fellow-men will light on him who uses, for unworthy purposes, the power which has been given for the common benefit of all. Sooner or later, the unjust writer, who attacks his enemy from under the secret covert of a public journal, will be detected and exposed. We will warn Mr. Wakley, that he has not been sufficiently careful in the selection he has made of the individuals who address the public through his pages, and we foresee, that unless he speedily exert a more careful superintendence, few men will care even to acknowledge to others, that they are readers of the *Lancet*.

THE CHOLERA REPORT OF THE COLLEGE OF PHYSICIANS.

On a more attentive consideration of the Cholera Report of the College of Physicians, we do not hesitate in expressing our opinion, that the fungous theory of Cholera, as developed by Dr. Budd, is set at rest for ever. Our readers will remember that the following points were essential to the very foundation of this theory; viz., that the so-called cholera fungi should be present in all cholera discharges and cholera atmospheres, and should be absent in all other cases. Now, the numerous experiments of Drs. Baly and Gull prove satisfactorily that these bodies are not always to be found in cholera atmospheres, and that they are no essential part of cholera dejections. And in this latter case, the evidence of two such experienced microscopists, to say nothing of Mr. Busk, Dr. Parker of the London Hospital, Dr. Bennett, and Dr. Robertson of Edinburgh, and others, is not only negative, but positive evidence, that the "cholera cells" did not exist in the cases examined. If we reject all the other observations, these decide the case. The cholera cells must be incidental only, not necessary and indispensable. But to back this evidence we have the observations of Drs. Jenner and Baly on the typhoid stools, showing that the cholera "fungi" are not peculiar to cholera. There cannot, therefore, be a doubt on the subject; and as the Bristol observers have not, for the most part, been guilty of false philosophy, since they only chronicled what they saw, and did not draw the extravagant inferences from their experiments in which some of their friends indulged, we trust there will be no difficulty in considering the question closed.

But another point remains behind, of considerable interest. It seems settled, that annular bodies, of peculiar form, exist often in both cholera and typhoid stools, although they are frequently absent from the former, and probably also may be from the latter. Now, what is their nature? whence are they derived? what do they signify? These inquiries are not, we think, satisfactorily settled by the College of Physicians, and, indeed, it was not their object to go into them; but they are well worthy of consideration; and, if the Bristol observers will diligently attempt the solution of the problem, the temporary error into which they, or rather their friends, have fallen, they may still bring forth fruits of no mean importance to science.

We cannot avoid again congratulating the College of Physicians on the zeal and ability which their Committee have shown in this matter. In common with the great body of General Practitioners, whose organ we are, we are happy to see useful and valuable results proceeding from a body who have it in their power to do so much to promote the advancement of Medical knowledge. The College, at the present moment, is in a position, if it proceed on *wise* and *liberal* principles, to place itself in its proper place, at the head of the Profession, and to lead the van of Science. Let it be just to all grades of the Profession of which it is a part, and we will cheerfully accord it our best assistance.

ROYAL COLLEGE OF SURGEONS.

We are enabled to state, that the Council of the Royal College of Surgeons of England, on Thursday night, determined to apply to the Secretary of State for power to grant relief to members of the College, of twenty years' standing, desirous of being admitted to the Fellowship.

At the present moment we can do little more than congratulate our brethren of the College of Surgeons, on this the first step taken to neutralize the injurious tendency of the Charter of 1843. But the date of membership is too far back. In common justice, all members before 1843 should be admissible to the Fellowship, and those who passed the College examination subsequently to the granting of the new Charter should become Fellows only on the Fellowship examination, or by a seniority of twenty years' membership and the requisite testimonials. *Le bon temps viendra.*

DRAINAGE.

While the state of the public health has been duly chronicled in the columns of the *Medical Times*, our readers will do us the justice to recollect, that we have not only been zealous in the cause during periods of epidemics, but we have never lost an opportunity of advocating all such measures as seemed likely to promote sanitary improvement of a permanent kind. Now that the cholera has left us, we hasten to turn our thoughts towards the best means of preventing its recurrence, and at the same time to develope a progressive system of extensive improvement as respects the cleanliness of our abodes, and the salubrity of the air we breathe when abroad in the streets.

With this view we propose to give a series of

articles on DRAINAGE, which shall imbody practical outline of the whole of this subject, and comprise a summary of its many important bearings upon the health, wealth, and morality of society.

PAYMENT OF MEDICAL REFEREES BY ASSURANCE COMPANIES.

We have more than once alluded to this subject. It is one which should never have needed discussion. The payment of Medical Men by Insurance Companies should be the rule, and not the exception, as we regret to say it is. The principle of equitable remuneration is, however, gaining ground, and those offices who resist it must do so to their own loss and discredit. It requires only the reasoning of common sense to see that the most valuable information, as well as the best safeguard, are given to the Company by the confidential report of the private medical attendant of the proposed life, and such information ought not to be afforded without adequate professional remuneration. We are led to notice the Prospectus of a new and apparently highly respectable Office, because we see that the Directors have resolved to pay the usual *honorarium* for inquiries, without respect to the result. The London Mutual Life and Guarantee Society has adopted a course which reflects credit upon its projectors; for what can be more absurd than to refuse to pay for information which shall induce them to reject a life. If any information is important, surely that is, which leads to such a result; for the only value in the Report, is to ascertain from the regular Medical Adviser the real physical condition of the proposed life.

THE OPERATIVE SURGERY OF JOHANN FRIEDRICH DIEFFENBACH.

Edited by

ALEXANDER URE, Esq.,

Fellow of the College of Surgeons of England, and Surgeon to the Westminster General Dispensary, &c.

(Continued from page 339.)

OF TYING THE INFERIOR THYROID ARTERY.

Rieke recommends this artery to be tied between the two slips of the mastoid muscle; and Dieterich follows nearly the same course. He makes an incision two inches and a-half long at the inner border of the clavicular portion of the mastoid muscle, beginning above the clavicle; then a second from the lower angle of the wound to the upper border of the clavicle, running outwards, an inch and a half in length. The platysma myoides, fascia, and both portions of the mastoid muscle are detached, and the clavicular slip loosed from its bony insertion, in order not to injure the phrenic nerve. In penetrating through the cellular texture, the transverse artery of the scapula is found running horizontally with the subclavian vein. The former is to be followed inwards and upwards as far as the inferior thyroid artery, and the latter tied above its origin from the subclavian.

This operation, if resorted to for the cure of bronchocele, is fraught with greater danger than the disease, inasmuch as the internal jugular vein, par vagum, great sympathetic and phrenic nerve, are all in the way. It can scarcely be undertaken, moreover, on the left side, owing to the thoracic duct. The anatomical difficulties are not evaded by adopting either of the plans proposed by Langenbeck, Colles, Sir Charles Bell, or Velpeau.

OF TYING THE INTERNAL MAMMARY ARTERY.

The tying of this artery is attended with some difficulty between the first and second ribs, from its proximity to the border of the sternum, and from the risk of lesion to the veins; lower down it is easily tied. The incision is made in the intercostal space an inch and a half long, commencing from the edge of the sternum, and from the upper border of the rib below, and winding outwards and upwards towards the under border of the rib above, without approaching too near, or implicating the intercostal artery. On reaching the aponeurosis of the greater pectoral muscle, this is to be cut across upon the subjacent muscle. Beneath are thin cellular and ligamentous texture. These, together with the internal intercostal muscle are to be separated, then the cellular envelope of the artery slit open, the artery insulated from the vein, surrounded with a thread passed by means of a small eyed-hook, and the knot made. The ligature is most easily applied in the third and fourth intercostal space, because there the artery is larger, runs about three-fourths of an inch from the sternum, and lies upon the tendinous expansion of the triangularis sterni muscle. Velpeau makes a very free incision, about three inches long, parallel with the lateral border of the sternum. Despite the length of this incision, however, there will not be room enough to penetrate into the intercostal space. Chelius, on the other hand, very judiciously exposes the artery, by an incision, beginning from the lateral margin of the sternum, and running directly in the middle of the intercostal space. I can confirm the advantages of this procedure.

OF TYING THE BRACHIAL ARTERY.

The patient lies upon the operating table, turned to the opposite side. The arm, entrusted to an assistant, is stretched out at an angle from the body, turned at the same time rather supine, because, if prone, the margin of the biceps would lap over the artery. The ligature can be applied, according to circumstances, either in the middle of the arm, or above the bend of the elbow, at the ulnar side of the biceps.

If the former situation be selected, the skin at the middle of the arm being held on the stretch, is to be incised along the ulnar margin of the biceps; the subcutaneous fat and cellular texture are then to be separated, and the fascia is to be slit upon a director. The artery lies close by the margin of the biceps, between two veins. To its outer side is the median vein, from which it is to be detached, and then tied.

Above the bend of the elbow the operation is even more facile. An incision is made over the internal condyle of the humerus, prolonged for a couple of inches, at least, along the ulnar margin of the biceps, extending to the fascia, which is also divided. The artery is then found to the outside of the median nerve, accompanied by the two veins. After being insulated, it is tied in the usual manner.

In some rare instances there is a high division of the brachial artery. The ulnar branch, under such circumstances, permeates the fascia, and lies immediately under the skin. Therefore, in tying the vessel for hæmorrhage or aneurism, it ought to be previously ascertained that no such bifurcation exists; otherwise ligation of the sound would obviously augment the flow of blood from the wounded trunk, an event which I have witnessed.

OF TYING THE ULNAR ARTERY.

This artery may be tied either at the middle of the forearm, or at the wrist. In the former case the incision is commenced upon the other side of the forearm, three finger's breadth apart from the inner condyle of the humerus, and three inches in length, descending along the inner margin of the ulna, and dividing the skin and fascia. On penetrating into the space between the muscles, leaving the palmaris muscle and the flexor sublimis to the outer side, and the flexor carpi ulnaris to the inner, the artery is found external to the nerves. At the wrist, an incision is made half an inch above the pisiform bone, along the outer margin of the tendon of the flexor carpi ulnaris, two inches long through the skin and fascia. Upon drawing the inner margin of the wound inwards, the artery is detected at the border of the tendon, and to the outer side of the nerve.

OF TYING THE RADIAL ARTERY.

The radial artery may be tied either at the elbow or wrist. In operating at the elbow, Averill makes an incision in the middle of the triangular space betwixt the two condyles of the humerus, and the extensors and flexors of the hand, which is begun a little below the joint, and carried for three inches downwards. The artery is bared after severing the fascia. Bierkowsky imagines a line drawn from the depression between the tendon of the biceps, and the supinator longus, and terminating at the wrist, upon the tendon of the radialis internus. In this line he makes an incision from an inch and a half to an inch and three quarters within the bend of the arm, two inches in length. At the wrist an incision two inches long is made over the styloid process of the radius, which, if prolonged, would bisect the interval between the two condyles of the humerus. Directly beneath the integument, at the inner side of the tendon of the supinator longus, lies the artery.

OF TYING THE ABDOMINAL AORTA.

Sir Astley Cooper performed this operation for the cure of an aneurism, situate partly above, partly below Poupart's ligament. The nutrition of the parts inferiorly is maintained, under favourable circumstances, after such an operation, by the inosculation of the mammaria interna with the epigastric, of the last lumbar arteries with the circumflex ilii, the hæmorrhoidal, and the pelvic arteries. After relaxing the abdominal muscles, Cooper made an incision three inches long into the linea alba, giving it a slight curve to avoid the umbilicus. One inch and a half was above, and the remainder below the navel, the cut being inclined towards the left side. "Having divided the linea alba," says he, "I made a small aperture into the peritoneum, and introduced my finger into the abdomen, and then, with a probe-pointed bistoury, enlarged the opening into the peritoneum to nearly the same extent as that of the external wound. Neither the omentum nor the intestines protruded; and during the progress of the operation only one small convolution projected beyond the wound." With his finger nail he scratched through the peritoneum on the left side of the aorta, and then, gently moving his finger from side to side, gradually passed it between the aorta and the spine, and again penetrated the peritoneum on the right side of the aorta. A blunt aneurismal needle was next conveyed under that vessel, and the thread tied, with the precaution of excluding the intestines from the noose. The wound was then closed by means of the quilled suture and adhesive plaster. (S. Cooper.) The patient survived forty hours. Sir Astley Cooper mentioned, that had he been called to perform the operation again, he would have cut off the two portions of the ligature close to the knot on the vessel, because the irritation of the bowels caused by them seemed a source of considerable danger. James operated after the same manner for an aneurism of the external iliac artery. The patient died in three hours. After Murray's operation the patient lived twenty-three hours. According to Murray and Langenbeck, the incision ought to commence three fingers' breadth across, above the superior spine of the ilium, opposite where the cruralartery lies on the pubes. I believe with Blasius, that the common iliac artery may be tied from below, according to Guthrie's method, without lacerating the peritoneum.

OF TYING THE INTERNAL ILIAC ARTERY.

Dr. W. Stevens tied this artery successfully for an aneurism of the gluteal artery. He made an incision, five inches long, through the abdominal walls in the direction of the epigastric artery, but half an inch to its outer side, as far as the peritoneum; he then detached it, with his finger, from the internal iliac and psoas muscles, searched for the vessel at the usual depth, and tied it half an inch below its origin. According to Hodgson, the centre of the incision ought to be opposite the superior anterior spine of the ilium, and its termination an inch and a half

above Poupart's ligament. Bujalsky makes a slant incision, beginning a finger's breadth above the anterior superior spine of the ilium, and running in the direction of Poupart's ligament. If the above incision is inadmissible, owing to the bulk and profundity of the aneurismal tumour, one may be made more outwards, above the spine and crest of the ilium.

OF TYING THE SUPERIOR GLUTEAL ARTERY.

The patient is placed on his face, with the toes turned inwards. The incision commences from the superior crest of the ilium, is carried, for the length of three inches, in the course of the fibres of the gluteus maximus, and towards the greater trochanter. After penetrating between the muscular fibres of the gluteus medius to the lower margin of the ilium the artery may be reached and tied, (Zang.) Lisars and Harrison lay down another but more difficult mode of procedure.

OF TYING THE ISCHIATIC ARTERY.

The patient is placed as in the preceding operation. The incision commenced under the posterior inferior spine of the ilium, is prolonged, for two and a half inches, in the track of the fibres of the gluteus maximus, towards the outer side of the tuberosity of the ischium. On exposing the great sacro-sciatic ligament, the surgeon discovers the ischiatic artery lying upon the lesser sciatic ligament and applies the ligature. The plan proposed by Sir C. Bell is not so convenient.

OF TYING THE PUDIC ARTERY.

The patient is laid on his face. The incision, of from two and a-half to three inches long, is made by the inner side of the ramus of the ischium, dividing the fat and gluteus maximus muscle, and terminating at a layer of fat. Hereupon the erector penis becomes visible, with the artery passing along its inner margin. The vessel is accompanied by two veins and the pudic nerve, and is parallel with the transverse artery of the perinæum. After being insulated from these, it is tied (Dieterich).

OF TYING THE EXTERNAL ILIAC ARTERY.

This operation was first performed by Abernethy, in the year 1796. An incision, about three inches in length, was made through the integuments of the abdomen, in the direction of the artery, the lower extremity terminating about half an inch above Poupart's ligament. The peritoneum was then pushed upwards and inwards with the fingers, and the artery secured. Sir A. Cooper preferred a semilunar incision, having the convexity directed downwards and outwards, through the integuments. One extremity of this incision was situate about an inch and a-half from the spine of the ilium, the other terminated a little above the inner margin of the abdominal ring. Graefe commenced his incision two inches from the spine of the ilium, and continued it to within a couple of inches of the abdominal ring. After the integuments are divided, the muscles are to be cut through until the peritoneum is reached. This latter being cautiously pushed aside, the artery will be found at the outside of the vein. The safest course is to pass round the ligature above the origin of the epigastric artery, because, if applied betwixt the latter and the arteria circumflexa ilii, there is a risk of no adequate internal coagulum being formed.

OF TYING THE FEMORAL ARTERY.

This artery may be tied high up in the thigh before it sends off the profunda femoris, or at the middle third.

In order to perform the high operation, an incision of from two to three inches is to be made midway between the anterior superior spine of the ilium and the symphisis pubis, in the direction of the artery, and which can be distinctly felt pulsating. The internal saphena vein is to be drawn aside, the cellular texture and inguinal glands detached, the superficial layer of fascia lata slit open, the sheath of the vessels opened, and the artery tied.

Various rules have been given for making the proper incision at the middle of the thigh. Hunter's plan is the most simple. He directs the cut to be made in the middle of the inner side of the thigh, by the inner margin of the sartorius muscle, to the extent of three inches. Scarpa terminated an incision of three inches long at the spot where the pulsation of the artery ceases to be felt. Rust drew a vertical line down the outstretched thigh from the horizontal ramus of the pubes, two inches remote from the symphysis. The extremity of this line falls upon the middle of the thigh. Graefe drew from the centre, betwixt the anterior superior spine of the ilium and the upper margin of the patella, a transverse line to the middle of the inner part of the thigh. The terminal point of this line indicates the middle of a longitudinal incision o three inches. Averill applies the ligature near the lower apex of the triangle, as circumscribed by Poupart's ligament, the triceps and sartorius. On division of the integument, the inner margin of the sartorius is seen; underneath is the artery. This muscle is to be drawn outwards, the cellular texture overlaying the arterial sheath detached, the latter opened, whereupon the artery is laid bare. The vessel, after having given off the profunda, sometimes divides into two trunks, which subsequently unite. The ligation of one alone is, in such a case, of no effect.

OF TYING THE POPLITEAL ARTERY.

The patient is placed upon the face. An incision of three inches is made along the posterior aspect of the thigh, and which ends betwixt the condyles of the femur. The surgeon then slits the aponeurosis, and penetrates through cellular texture and fat to the popliteus muscle, till he arrive at the artery deeply seated, covered by the vein and nerves. He draws the latter outwards, bends the knee in order to obviate tension, and ties the vessel.

OF TYING THE ANTERIOR TIBIAL ARTERY.

This operation is usually performed in the middle of the leg. The incision commenced a little below the middle of the tibia, is extended from its outer margin for three inches, somewhat obliquely outwards and upwards, between the anterior tibial and extensor longus digitorum muscles. The fascia being slit, on passing into the depth betwixt the above muscles, the artery is found lying upon the interosseous ligament.

OF TYING THE POSTERIOR TIBIAL ARTERY.

This can be done in three places. (Grossheim.) 1. High up in the leg; the incision begun below and between the condyles of the femur, is carried four inches down the calf. The surgeon, after dividing the aponeurosis and fibres of the gastrocnemius, will find the artery at the inner side of the external head of this muscle. 2. At the mid-leg; the incision commenced below the middle of the leg at the inner border of the gastrocnemius, is prolonged downwards in the direction of this muscle; then the muscle, with the upper portion of the tendo Achillis, is to be raised up, and the soleus cut across. There lies the artery. 3. At the ankle: an incision of two inches is made through the skin and aponeurosis, between the inner an le and the tendo Achillis, but rather nearer to he former. Almost directly below the malleolus is the artery. (Averill.)

OF TYING THE PERONEAL ARTERY.

For this purpose, an incision three inches long is made through the skin, somewhat below the mid-leg, parallel with the fibula, and behind its external margin. After dividing some muscular fibres, the artery is brought into view.

REVIEWS.

Traité d'Anatomie Pathologique Générale. Par J. Cruveilhier, Professeur d'Anatomie Pathologique à la Faculté de Médécin de Paris, &c. Tome Premier. A Paris chez J. B. Baillière. 1849. 8vo. Pp. 735.

A Treatise on General Pathological Anatomy. By J. Cruveilhier, Professor of Pathological Anatomy to the Faculty of Medicine. Vol. I. Paris: J. B. Baillière. 1849. 8vo. Pp. 735.

A new work by the celebrated Professor of Pathological Anatomy of the Parisian Faculty of Medicine calls for more than a passing notice.

Pathological Anatomy is to Pathology what Normal Anatomy is to Physiology: it unravels the structure of morbid organizations, the phenomena attending the vital actions of which constitute Pathology.

An examination of dead matter cannot teach, nor even explain *vital* phenomena. (a) We cannot tell *à priori* from the physical structure of any viscus what its vital action will be; we cannot tell *à priori* from the vital action of an organ what its physical organization is.(b) If, however, we trace an aberration of function to a lesion of structure, we are enabled, when that aberration again occurs, to predicate the existence of the same lesion. The more rigid the process of induction by which the one is affiliated to the other, the more certain we may feel of finding the two invariably associated. Let the abnormal vital phenomena, *i.e.*, the symptoms proper to any lesion of structure, be once fixed, and from that moment we are able to correct our diagnosis by anatomico-pathological researches. If these researches prove that two lesions, conjointly or separately, are found after any given group of symptoms, *i. e.*, morbid vital phenomena, then it bids us, by more minute clinical observation of the pathological phenomena to separate those peculiar to each. Let us illustrate our position: the structural change of the kidney termed Bright's disease, includes two or more distinct anatomico-pathological lesions, minute clinical observations, conjoined with careful examination, after death, of the diseased organs, will eventually enable us to determine what peculiar symptoms, heretofore grouped under one name, are peculiar, respectively, to each of these lesions. When thus precision is given to our ideas, when, by a certain expression, we mean *constant* symptoms connected with *constant* lesions, when by one name we mean one, and only one, thing, and when, by the *same* name, we mean absolutely the *same* thing, we shall be in a position to determine positively, by observation, the treatment, for we can then compare like with like, one set of cases, of any given disease, treated by one remedy, with another set of cases, of the same

(a) We here use the expression vital phenomena in opposition to, or as distinct from physical phenomena, the *result* of vital actions; thus, the closure of the mitral valve is, in a great measure, a physical phenomenon consequent on the vital action of contractility proper to the heart, &c. Now, it is manifest, that so far as purely physical phenomena are concerned we are enabled to offer, from dead structures, an explanation of the phenomena, healthy or diseased, manifested during life. But, even this power of explanation is *very* limited. Look at Endosmosis, subject to certain known laws, when a consequence of the physical properties of dead membrane; let the same membrane be under the influence of healthy vital actions, the laws which regulated the phenomenon in the dead membrane are no longer those in accordance with which it acts; and again let disease arise, and observation must anew determine the laws it obeys.

(b) A knowledge of the phenomena attending the healthy vital action of any structure or organ cannot enable us to determine what will be the modification in the vital phenomena consequent on its action when disease has altered its textures. All we can say, before observation, is, that a departure from the healthy action will ensue; but, how much the phenomena by which the action of the organ is *manifested* to our senses, or to those of the patient, will be modified, we cannot predicate; nay, we cannot say absolutely, if they will be modified at all. Thus, half the substance of a secreting organ may be so altered by disease as to be incapable of exercising its function; and the remaining half of the organ compensating by its increased action, no abnormal phenomena ensue—*i. e.*, so far as our senses enable us to take cognizance; and no one could *à priori* have declared that this would hold true of the kidneys, but be absolutely false with respect to the lungs. No one could have told beforehand, that it would hold true if certain lesions occurred gradually, but be false if the injury were inflicted suddenly.

disease, treated by anotherremedy, we can analyse, we can count. In this way pathological anatomy advances therapeutics, but in this way only; and is because false friends to the science have strive to assign to it higher powers, have attempted to deduce, from the appearance found after death, *à priori* modes of treatment, that "Some men have not feared to say, that Pathological Anatomy has caused the science of medicine to retrograde."

"Human Pathological Anatomy," our Author states, "may be studied from three points of view, from whence are derived three very distinct species of Pathological Anatomy:—1st. General Pathological Anatomy. 2nd. Pathological Anatomy applied *i.e.*, studies with reference to diseases properly so called, to their causes, their symptoms, their progress, their termination, and their treatment. 3rd. Topographical Pathological Anatomy; which has for its object to present a complete picture of the morbid lesions which may appear in each region of the human body, without reference to the affinities or discordances which exist between those lesions."

The first, only, is touched on in the present Volume. General Pathological Anatomy is defined to be an abstract or general consideration of morbid lesions, without regard to the diseases to which those lesions appertain; its essential object to be, the determination of morbid anatomical species, and the grouping of these, according to their analogies and their differences; and finally, the uniting these species into genera, orders, and classes. For this purpose, Pathological Anatomy avails itself, not only of the scalpel, but also of experiments on animals, and of chemical and microscopical researches.

"It is," he proceeds, "in this point of view, that pathological anatomy may be considered as a science distinct from others, having its own facts, its laws, its language, its method,—*the science of anatomical morbid species.*"

Pathological anatomy teaches us three things:—the seat, the organic nature, and the organic causes of diseases.

While considering the third head, our Author explains the meaning of the expression,—the anatomical character of a disease,—to be the constant co-existence of such or such symptomatic form of disease, and such or such organic lesion. "The question of causality," he adds, "may afterwards be considered and settled;" thus, as we have on previous occasions remarked, the anatomical character of a disease and the organic cause of the same disease are distinct things. True, in some cases the same lesion may be at once the invariable concomitant of the group of symptoms called the disease, and the cause of those same symptoms; and in such cases the anatomical character and the cause *happen* to be the same, but in other cases they certainly are very different; thus the anatomical character of the symptomatic disease, *i. e.*, defined by its symptoms alone, termed small-pox, is the peculiar pustule, and yet that pustule cannot be considered as the cause of the groupe of symptoms termed small-pox.

Speaking of the power of examinations after death to throw light on the cause of death, he asks—

"In how many, especially very acute diseases, do we not meet with lesions so slight as to be totally incapable of explaining death? What! do you believe that you have shown me the cause of death when, in a case of measles, of scarlet fever, or of small-pox which proves fatal at the period of invasion or of eruption, you have shown me an injection of such or such part of the mucous membrane of the alimentary canal or of the air passages?"

He further refers to cholera, hydrophobia, tetanus, epilepsy, and certain cases of sudden death, as affording examples in which anatomico-pathological researches throw no light on the cause of death, and adds that,—

"In this way pathological anatomy leads to vitalism, from which at first sight it appeared to remove us."

In the first part of the work fourteen propositions or axioms are laid down:—

1. The number of morbid species is limited.

2. Morbid species are identical, whatever may be their seat. The differences which result from the texture of the organs in which they are developed constitute only varieties. The characters of the morbid species are as inalienable as the characters of zoological species. On this point great emphasis is laid by M. Cruveilhier.

3. Lesions, as a rule, are common to all the tissues: special lesions are the exception. This is opposed to the pathological axiom of Bichat, "Each tissue has its proper lesions."

4. Each tissue, each organ has its own morbid *affinities*. Thus the lungs and the lymphatic ganglia have a morbid affinity for tubercle, the uterus and mammæ for fibrous tumours, &c.

5. There are a certain number of special lesions, such as those dependent on the peculiar formation, structure, or function of an organ.

6. Anatomical characters ought to be the basis for the determination of morbid species, without in any way being disturbed by the rank they hold in the nosological catalogue.

7. The anatomical characters are displayed in the external conformation and in the texture of the diseased organs.

8. The study of the evolution of morbid lesions is necessary for the determination of the species.

9. Experimental pathological anatomy is one of the most fertile bases of pathological anatomy, and, consequently, of pathology.

10. Compound morbid species result from the association of a certain number of lesions, and this association occurs according to certain rules, which we call *the laws of morbid association*. Among associated lesions we must distinguish coincident, consecutive, and subordinate lesions.

11. Distinct morbid species are never transformed into each other. The importance of this proposition cannot be too highly estimated. It is in direct opposition to the generally received opinion, according to which so many morbid lesions may degenerate into cancer.

"It results from innumerable observations, that a cancer is a cancer from the first moment of its formation, that fibrous tumours are fibrous from the instant of their appearance, and will continue so thirty, forty years after. The terror that the possibility of other morbid lesions degenerating into cancer inspires, is imaginary. Surgeons ought no longer to permit the idea, that a tumour of doubtful nature may eventually become cancerous, to influence their judgment in determining the propriety of extirpating it. I know no fact which unequivocally proves that a morbid tissue, the result of acute or chronic inflammation, may become cancerous." Morbid species are no more able to be transformed into each other, than are the vegetable or animal species."

12. One species of morbid lesion may be regarded as in some measure conferring an immunity against other species of lesions. Thus, fibrous tumours of the uterus afford, in some measure, an immunity against cancer of that organ. However, the immunity enjoyed is confined *absolutely* to the fibrous tumours themselves. Thus, the whole uterus may become cancerous, the fibrous tumours themselves with which it is studded only escaping.

13. Living tissues are in themselves unalterable. Other morbid lesions, which are the most essentially disorganizing—the inflammatory, tuberculous, and cancerous—are due to the infiltration of the tissues by heterogeneous matters; the tissues which appear degenerated are nothing more than tissues, the fibres of which are separated, and more or less atrophied, or hypertrophied.

14. The immediate seat of all nutrition and of all morbid secretion is the capillary system.

Without entering into the absolute truth of all these propositions, some of which would require modification before we could admit them in the abstract, we may remark, that the 2nd, 3rd, 4th, 6th, 8th, 11th, and 13th, are of extreme importance, as forming the very basis of the science of Pathological Anatomy.

Abandoning the classification of morbid lesions he before proposed, M. Cruveilhier now adopts the following:—

Order	Class		Lesions
Order 1.	1st class	..	Solutions of continuity.
	2nd	..	Adhesions.
Order 2.	3rd	..	Luxations.
	4th	..	Invaginations.
	5th	..	Herniæ.
	6th	..	Deviations.
Order 3.	7th	..	Foreign bodies.
	8th	..	Contractions and obliterations.
	9th	..	Dilatations.
Order 4.	10th	..	Hypertrophies and atrophies.
	11th	..	Metamorphoses and analogous productions.
Order 5.	12th	..	Dropsies and fluxus.
Order 6.	13th	..	Hæmorrhages.
Order 7.	14th	..	Gangrenes.
Order 8.	15th	..	Inflammatory lesions.
Order 9.	16th	..	Strumous lesions.
Order 10.	17th	..	Carcinomatous lesions.

The present volume contains only a consideration of the first six classes. That the above classification is extremely faulty, we should think, even its Author himself, would admit; but we believe a natural, and therefore perfect classification in our present state of knowledge to be impossible.

Under the head of wounds by pointed instruments is the following unique case:—

"Opening the body of a culprit I once found a very long rusty needle thrust from before backwards in the left ventricle near the apex of the heart. One extremity of the needle occupied the anterior walls; the other the posterior wall of this ventricle; the body of the needle was free in the cavity of the organ."

There was no means of ascertaining how it reached its position in the heart, for there was no trace of inflammation of the pericardium—no appearance of a cicatrix of the skin over the cardiac region.

Some instructive cases of rupture of arteries during efforts to reduce dislocations are detailed in the chapter on Solution of Continuity.

The causes of death by primary accidents are stated to be as follows:—

"1st The lesion of an organ indispensable to life; 2 Stupor; 3. Convulsions; 4. Hæmorrhage; 5. The introduction of air into veins."

The symptoms of the second mode of death are thus described:—

"The stupor of the wounded is a state of physical and moral insensibility,—of perfect indifference as to their position. The face is without expression, profound, altered, pallid, or jaundiced; the pulse is small, contracted, sometimes very slow; there is almost invariably present a sense of agony at the epigastrium."

The two cause of this stupor are:—1st. Extensive mutilations; 2d. Loss of vital power, the consequence of pain.

The stupor consequent on extensive mutilation may be independent of all concussion of the brain.

"In March, 1814, at the battle of Paris, I saw many men wounded by cannon-balls, perish in this stupor; they were placed beside their comrades, replied to questions with difficulty. Like the soldier of Quesnay, they would have been able to answer, if amputation had been proposed to them, 'that it was *no concern of theirs*.'"

M. Cruveilhier thinks that the moral condition of the individual wounded may have some influence producing or preventing the occurrence of death from stupor. Thus, it was common in 1830, among discomforted Royal Guard, while the victorious revolutionists much more rarely suffered from it. This form of stupor is altogether independent of

pain. In fact, there may have been no sensation of pain experienced at the time of the injury. But there is a form of stupor which may cause death the consequence of intense pain. Some case are here detailed, in which death appears to have been due simply to the nervous exhaustion consequent on the intense pain of surgical operations. The phenomena of the two forms of stupor are identical. The subject leads him to speak of etherization, and of it he writes—

"To have delivered humanity from the physical suffering which accompanies a surgical operation, is one of the greatest gifts of modern surgery."

M. Cruveilhier's account of the case in which he first saw the propriety of referring visceral abscesses after operation to phlebitis, is very interesting, but too long for us to extract.

The pus, he thinks, is formed in the vessels themselves, and carried into the capillaries, where it acts as a foreign body, and excites inflammation of those capillaries. Like all modern pathologists of repute, M. Cruveilheir repudiates the idea that pus globules can, as such, be absorbed by the capillaries, as a physical impossibility. The following is our author's account of the union of bone after fracture :—

"The callus is formed by the ossification of all the lacerated soft parts which surround the fragments, periosteum, cellular tissue, muscles, tendons, aponeuroses, &c.; the ends of the bone have no part in any period in the formation of the callus. *There are not two calli, one provisional, the other definitive*, but one and the same callus, spongy and voluminous in the first period, compact and reduced in size in the second."

In a chapter headed Reunion of Fractures by Cicatrix by Fibrous Tissue, it is stated that this mode of reunion is observed under two circumstances :—

"1st. In all solutions of continuity of bone with suppuration around the fragments. 2ndly. When the fragments of the fracture are not surrounded by the soft parts necessary for their consolidation."

So that the anatomical position of the neck of the femur accounts for the fact, that bony union never occurs when fracture takes places within the capsule. Firm fibrinous union, M. Cruveilheir believes, would take place, however, under such circumstances, if the immobility of the limb were secured. And this union would, under suder such circumstances, be so complete that a cure for all practical purposes would be effected. The following appears to us to offer a practical suggestion for the treatment of these unfortunate cases worthy of attention :—

"A fact which I observed gave me the idea that immobility in a sitting position might be, at least in some cases, much more favourable for the cure of fractures of the neck of the femur than immobility in the horizontal position. The sitting position, moreover, allows the patient to discharge his stools and urine without changing his position."

The case referred to is that of an old man eighty years of age, who has fractured the neck of the femur, when 400 leagues from Paris. He found himself so much easier in the sitting position, that he refused to leave his carriage at night while travelling to Paris, on reaching which city he was kept in a sitting position till the cure was complete. Seeing the ease with which many persons, suffering from heart affections, &c., bear the sitting posture for years, we think the hint exceedingly good and practical, and, as such, would strongly urge it on the notice of our readers. Under the head adhesions are arranged congenital adhesions constituting one group of monstrosities. This chapter is particularly full. We remember when the late Mr. Brookes exhibited, as a most singular phenomenon, the body of a youth, in whose abdomen the remains of a female fœtus had been detected, many persons of rank, unconnected with the Profession, went to gaze on the wonder. The sapient remark of one excited much merriment: "Eh! eh! Mr. Brookes," said His Royal Highness, "do you think he swallowed her." The labours of Geoffrey Saint Hillaire, father and son, Himly, Ollivier, and others, have done much to elucidate the subject.

From the chapter on Luxations we must be content with presenting to our readers the following case. In the text M. Cruveilheir throws doubt on the possibility of consecutive luxation of the humerus, but he appends this note :—

"At the moment when I arranged this Article, I imagined that consecutive luxation of the humerus was impossible, because I could see no cause fitted to produce that displacement; but I have just now seen a case which completely *refutes my theory*. A cook, aged 25 years, consulted me with all the signs of a subcoracoid luxation of the right humerus. Angular projection of the shoulder, subacromial depression, spheroidal prominence in front, beneath the coracoid process, formed by the head of the humerus, axis of the humerus outwards and backwards. I thought it was an old traumatic dislocation. It was nothing of the kind. She had suffered much from pain in the shoulder for a year and a half. For a year she had been unable to raise her hand to her head; four months had elapsed since she could put her hand to her mouth. No movement, when I saw her, was possible in the humero-scapular articulation."

Our space will not permit us to follow the distinguished Author through each chapter of the work before us, which will, when complete, contain a mass of materials such as no other work on the same subject can boast, and have, moreover, this advantage, that the materials are obtained from original researches, and not simply selected from apocryphal works or from nameless authors.

REPORTS OF SOCIETIES.

MEDICAL SOCIETY OF LONDON
Oct. 15, 1849.

F. Hird, Esq., President.

CHOLERA.

Dr. Clutterbuck commenced the evening's proceedings by saying: A great deal of discussion has taken place in this Society on rheumatism and hysteria, some calling a case one of rheumatism, and others denying that it was so. This could only arise from a great defect in our language; and, indeed medical language is most imperfect, vague, indefinite, and variously defined, and no greater service could be rendered to the Profession, than by ascertaining the true meaning of the words we use. Having stated this much, I shall now make some allusions to the subject of cholera, which, I think, has now some chance of being discussed with calmness. So far as at present, nothing more indefinite or uncertain as to the nature and treatment of the disease can possibly exist, and I should be glad to hear now the cool sentiments of gentlemen on the subject, as to what we are now to conclude on the nature and origin of the disease, and what we are to do as to the treatment of it. As to the latter point, nothing could have been so contradictory and vague as that suggested, and he felt convinced that the fatality of the disease had in many cases been increased by the remedies employed, at many times most violent in their nature, and some of which, if they had been applied to persons in health, would inevitably have destroyed them. Thus, calomel had been given in spoonful, and opium recommended in poisonous doses; but the patients having survived such treatment, that fact was taken as proof of the utility of the medicine. He was persuaded, however, that the *post hoc ergo propter hoc* would not apply to many of the cases in which it had been employed. When calomel was given largely in cases where the alimentary canal could contain nothing, one could imagine why it was evacuated; and so with other medicines. I think there can be no question that the disease is one of epidemic origin; but, allowing this, we are still no nearer as to what the disease really is. Then, as to its treatment; do we know enough of it, or of the effects of various kinds of treatment, to justify us in abiding by any particular course? I am inclined to think not. All that we can say is, that we have done no good, or that we have done positive harm. If I were asked my opinion on the treatment pursued, I should say, that it has proceeded on the supposition that we are unacquainted with the nature of the disease intrinsically, and that while we know so little, our observations do not carry us far as to treatment, but should tend to make us cautious. The conclusion to which I have come is, that the disease is incurable, that we have no specific remedy for it, and that, therefore, we must come to the palliative mode of treating it, relieving the symptoms by measures that are safe. Acting on this principle, and supposing that the case was one of vomiting, I should promote that to a reasonable extent, and the same with respect to the purging; I think it unreasonable to suppress it by opiates; and feeling this, I have used the mildest form of aperients, trusting that the natural indication is the proper symptom. Thus, after evacuation had gone on, then I might palliate to a certain extent, but still by the mildest means, endeavouring to restore the diminished animal heat, and trusting to time to effect the subsidence of the disease. On the question of contagion, that is a matter still open to a great deal of observation, and is involved still in much difficulty. We are hardly warranted in denying it, and yet we are met with much difficulty in allowing its contagiousness. Epidemics generally originate in some atmospheric change, and we are very apt to attribute them to malaria. But I think this is rather to be considered as an aggravating cause than the primary one. As a matter of theory, the thing is full of doubt and obscurity; we have nothing to rely on but careful observation and experience; and that, so far as I have observed, leads to the use of the mildest means for palliation, trusting to time to effect a cure. I make these observations for the purpose of eliciting further remarks.

Mr. Dendy: I join with Dr. Clutterbuck in thinking that our definitions are defective; and I would therefore ask him what he means by the term "cholera;" if it is the developed disease he alludes to, I am sure that "time" is not the thing to be depended on. If he speaks simply of diarrhœa, I might agree with him to some extent.

Mr. Headland: I concur most fully in the propriety of the Doctor's remarks on definitions, but would remind him that my doubt as to the case of rheumatism arose from my wish to adhere closely to medical nomenclature, which holds rheumatism to be a painful affection of the joints; and it was the absence of this feature in the case brought under notice which led me to doubt; and I must also remark that Dr. Clutterbuck has fallen into the very error he reprehends as to the cholera. The word implies very inadequately what we know of it; and to consider vomiting and purging as cholera is not a sufficient definition.

Dr. Clutterbuck: In my opinion we ought to look to that portion of the nervous system connected with the alimentary canal and the organs of digestion and of respiration; these appear primarily to be the suffering parts, and which are so violently disturbed.

Mr. Headland: Although we feel great insufficiency as to the treatment of cholera, yet it is impossible not to observe that great injury has been done to medicine by the circulation of statements that the Profession are wholly incompetent to it. In my opinion, the efforts of Medical Men have been most important in the late epidemic; and I think they have not been well used by the Government. They (I mean the College of Physicians) have been talked into certain plans; the knowledge they possessed has not been made use of: and I think that, so far from admitting that the Profession are not acquainted with the disease, we ought to teach the public that we are in possession of means for staying the epidemic. It has been said by some journals, who ought to have been the last to say so, that the Pro-

fession possesses no remedy for cholera; I would ask, do they possess any at all, except it be sulphur for Scotch fiddle? We have no specific for small-pox, or any malignant disorder. It happens that cholera is dependent on certain circumstances which we are ignorant of; but this is no more than holds as to measles and scarlet fever. Now, if the Profession can deal with a large mass of human beings, as in the metropolis, I think it fair to infer, that, with such a population as it contains, and where only 14,000 or 15,000 persons died, it is a monstrous statement to call it a severe visitation of a severe epidemic; and I think that, independent of medicine altogether, the moral influence of the Profession has been vastly useful; and that it is too much the custom of that Profession to be ridden over by those who had no right to do so.

Mr. Clarke (to bring the matter more specifically before the meeting) asked whether any gentleman had tried the calomel treatment of Dr. Ayre.

Dr. Bird: After all, I think that Dr. Clutterbuck and Mr. Headland are very much agreed. Why do we save so large a number of cases of typhus? —but simply that we do not kill our patients; and so it has been with regard to cholera. I do believe, with Mr. Headland, that the Profession has been a most important instrument in stopping the disease, and in preventing the seeds of it from finding a soil. With respect to Dr. Ayre's treatment, I confess, that, if that treatment is successful in Hull, the diseases of Hull and of London are very different things: I never saw it do one particle of good. Some, indeed, have recovered, but they rather got well in spite of the remedy than in consequence of it.

Mr. Hird: In the failure of some remedies, yet I think we have other measures at command. If we can keep up the vomiting, we by that means keep up the action of the heart, and this allows the system a longer period of time to overcome the effects of the poison.

Adjourned.

WESTMINSTER MEDICAL SOCIETY.

October 27, 1849.

F. Hird, Esq., President.

Mr. Henry Smith exhibited a specimen of a diseased knee which he had removed, by amputating the thigh of a young man aged 18. The patient had had a considerable enlargement of the bone for six years; it was seated over the inner side of the joint, and had latterly increased so as to materially affect the motions of the joint. It was considered to be an exostosis. No symptom of any disease within the joint itself appeared until three months previously, when an injury was received and the joint became inflamed; and, notwithstanding the employment of leeches, rest, and counter-irritation, the disease went on, and it soon became evident that the joint was seriously affected. As the patient was suffering very much, was completely crippled, and likely to remain so from the existence of the bony growth alone, Mr. Smith, at his urgent request, and with Mr. Fergusson's approval, removed the limb. The disease consisted of a great enlargement of the inner condyle of the femur, which was so soft as easily to allow the knife to penetrate. There was pus in the joint, and the cartilages were removed from the external condyle, and were in process of separation from the whole of the root of the articulating surface. He had performed the operation close above the knee-joint, by making a short flap in front, and cutting a long one behind from the muscles of the calf of the leg, as practised by Mr. Fergusson.

Mr. Hancock considered the disease to be of a scrofulous character, abscess in the cancellous structure; the bone was enlarged and ulcerated, and the cartilages absorbed. The form of operation resorted to by Mr. Smith was first introduced by Mr. Syme.

Mr. Canton considered, that if the disease had been simply an exostosis, it might have been removed without amputation of the limb; he had expected to find in the joint exhibited an increase of growth, but, instead, found a removal of the natural parts. The enlargement present was the result of irritation, periosteal disease, &c. It is a strong objection to this form of operation that numerous arteries have to be tied, an objection obviated by amputation higher up.

Mr. Smith said that it was a rule in operative surgery to take away as little of the healthy parts as possible; by making a flap from the calf of the leg, a greater extent of the thigh would be saved. Another benefit of this mode of operating, is that the cicatrix of the stump could be brought well forward, by careful attention to dressing. The great number of vessels divided was certainly an objection which could not be overlooked; in this instance about fifteen arteries required ligature. The young man was in perfect health, save from the local disease, and did not come of a scrofulous family.

Dr. Murphy read a paper "On the Use of Chloroform in Midwifery." He had carefully used it in many cases, in the hope of determining its value as an anodyne, and its immunity from mischief to the patient, three questions presenting themselves for consideration, viz.:—1st, Whether chloroform interfered with the action of the uterus; 2ndly, Whether the safety of the child is hazarded by its administration; and 3rdly, Whether any ill effects subsequently manifest themselves by which the safety of the patient is compromised. The cases selected for the use of chloroform were, first, operation cases, in which the diminution of the intense pain attendant upon them is of importance, and the anæsthetic is employed for a short time only; secondly, natural cases, in which he had at first restricted its use to cases of intense suffering, but latterly also to relieve pain in natural cases. The operative cases were thirteen in number,—ten being forceps cases, including one, the formation of a new os uteri; two cases of arm presentation, with unusual difficulties; and one case of perforation in a pelvis having a conjugate diameter of only $2\frac{1}{2}$ inches. The cases of natural labour were eight in number. The details of these cases are published in the Edinburgh Monthly Journal for November. In the operations the patients were rendered both insensible and unconscious, and, although, in some cases, they uttered sounds as if suffering pain, they said afterwards they had felt none. In one patient, greatly debilitated by privations, it being necessary to turn the child, the uterus contracted firmly. In the other case of arm presentation, the patient was rendered so deeply unconscious, that the voluntary muscles were relaxed, yet the uterus contracted with very considerable force. In the natural cases chloroform was never given to the extent of causing unconsciousness, and was reserved till the second stage of labour: it invariably diminished the intensity of the pains without altogether removing them, the patient feeling the pains, and bearing down with them, yet perfectly conscious of the relief she experienced. In one case no relief from pain appeared to result, but the contractions of the uterus were retarded. In every instance the mothers recovered most favourably. Three of the children died, one from perforation, one putrid, and one from extreme difficulty in turning.

He did not discuss the question whether anæsthesia should be employed in midwifery at all; but his observations were directed to solve the questions which concern the value of chloroform as an anæsthetic, and the dangers which may arise from its use. The results are briefly as follow:—The uterus was not paralysed in a single case. In one case, the period between the pains was lengthened, but the action of the uterus was more efficient. In another case, the labour appeared to be retarded, and the uterine contractions came on more quickly and forcibly when the chloroform was omitted; but in all the cases, its contractile power was by no means lessened. The 78 cases recorded by Dr. Channing proved the same. Dr. Denham, of Dublin, had found the cases protracted by chloroform, yet all progressed rapidly directly the anæsthetic was omitted; therefore, Dr. Murphy argued, that no paralysis resulted from the anæsthesia. Hæmorrhage is the result of atony or non-contraction of the uterus; yet, in 600 anæsthetic cases recorded, no such accident had occurred. The child was born alive in all of 541 natural births, and in 79 operative cases, 20 died from the performance of craniotomy; 8 only from other causes; a mortality of only 1 in 7 operative cases. In no instance had subsequent ill effects to the mother followed the use of anæsthesia. He confuted the statement, that ladies had died from its use, and attributed the deaths from convulsions, &c., in which chloroform had been used, not to the anæsthetic, but to other natural causes. All the deaths really caused by chloroform have occurred suddenly, and during the narcotism. The Author then referred to the researches of the American Medical Association, who reported, that anæsthesia had been used in 2,000 cases of midwifery without the occurrence of a single fatal case, and very few untoward results.

All medicines will occasionally produce evil results, and he considered the ill effects of anæsthetics merely to come under this category. The author lastly combated the assertion, that lascivious dreams accompany the inhalation of anæsthetics. He had never observed any such appearances, nor had other Practitioners. Having expressed his belief, that the intense sufferings of parturition are not physiological or normal, but pathological or abnormal, he considered the diminution of this pain to be not only justifiable but proper, and calculated to enable the constitution to recover itself much more rapidly than it otherwise would.

Mr. J. B. Brown was very favourable to the use of chloroform in labour when used properly. Its properties are—1st. Stimulating the nerves of motion; 2nd. Arresting sensation; and 3rd. Motion. The secret of administering it is to give small doses only so as to find these several stages. If the uterus is languid, and wants a stimulus, he gives chloroform, not secale cornutum; if the expulsive efforts require help, he gives it to the second degree. When gentlemen say, that they gave it for half an hour, they never consider whether they may not have given too much. He does not give it if the labour is perfectly natural, the os uteri dilating kindly, and the external parts moist; in other words, if there is not more pain than proper; beyond this, it is not justifiable to refuse it. In hard labour, or where bleeding and tartar emetic are indicated, he has never seen chloroform fail in giving relief. He referred to the refusal of some who object to its use, to try whether it is useful or not, and said, that neither he nor Drs. Murphy, Channing, &c., had ever found any lascivious actions during anæsthesia. Dr. Tyler Smith had experimented several times on guinea-pigs to prove the effect of chloroform on the nervous centres. The first effect was hurried respiration, and slight twitching of the extremities; then the animal lay still, and the motions were confined to movements of the diaphragm. Before death, he laid open the chest and abdomen, and found the heart beating, and the uterus and intestines moving peristaltically; the sphincters relaxed. He had pushed a stillette down the spinal marrow without producing movements of the limbs, thinking that perhaps the spinal marrow died with the animal. He experimented on frogs: they became quite insensible to spinal stimuli; they were beheaded, and the stillette passed down the spinal marrow, but no movements followed; when it was passed to the origins of the nerves there was a slight movement from those nerves; pinching the nerves had no effect, and galvanism very little. He thought these facts applicable to parturition; at first respiration is hurried; push the anæsthesia further, and you lose the spinal action, so that the uterus is left to its own peristaltic action; however the sphincters and voluntary muscles are paralysed, so that there is less resistance.

Dr. Snow said, that as the guinea pig must have been almost dead at the time of Dr. Smith's observation of its uterus, he doubted whether the result of the experiment could be applied to what occurred in practice. He agreed with Dr. Murphy that chloroform, when judiciously administered, does not interfere injuriously with the contraction of the uterus; but so far as he had been able to

observe, a full dose always had the effect of suspending the uterine action for the moment, and that, consequently, when relaxation of the uterus was required in order to facilitate turning the child, it could always be produced, by inducing a full state of narcotism, and continuing it till the turning was effected. He (Dr. Snow) had lately given chloroform, in a case of arm presentation, under the care of Mr. French, and the passive state of the uterus allowed that gentleman to turn the child with the greatest ease, although the liquor amnii had been some time discharged. In this case, the inhalation being discontinued, the uterus contracted almost immediately, and expelled the placenta into the vagina. In the case related by Dr. Murphy, where there was strong uterine action during the operation, Dr. Snow believed that the narcotism had not been so complete as it appeared to be, and had certainly not extended to the fourth degree. With respect to the alleged immoral effects of chloroform in midwifery, he, like Dr. Murphy, had seen nothing of the kind. The greater number of patients who underwent surgical operations had no hesitation in relating everything they experienced; but amorous dreams were so excessively rare under chloroform, in comparison with what occurred in natural sleep, that it was evident the inhalation exerted a powerful effect of the opposite kind to the one alleged; and he had no doubt that, if trial were made, chloroform would be found to be a more efficient agent in the prevention of chordee than belladonna, camphor, or any other medicine.

The discussion was then adjourned.

CASE OF POPLITEAL ANEURISM IN THE HOSPITAL AT CANTON.

[To the Editor of the Medical Times.]

SIR,—I observe, in a Number of the *Medical Times* sent me by a friend, that you state I have succeeded in opening a hospital, and residing *within* the city walls of Canton. I cannot conjecture how such a statement has got into the public Press; it may, however, have arisen from the fact that I have succeeded, after much difficulty, in establishing myself in the *western suburbs*, which is a great family neighbourhood, and where no foreigner has ever been able to reside before, being almost as much closed against foreigners as the city itself. By correcting the above error, which is calculated rather to harm than benefit the cause in which I am engaged,

I remain, Sir, respectfully yours,

BENJAMIN HOBSON.

Canton, July 24, 1849.

P.S. In the same Journal there was an interesting case of femoral aneurism, graphically and affectingly detailed. I copy from my case-book a similar one, affecting the popliteal artery. If you think it worthy of publication, you are welcome to the following rough notes.

August 11, 1848.—230 patients came under treatment. The most important was a case of aneurism of the popliteal artery. It commenced two months ago; at first very small, but increasing daily to the present size of a goose's egg. The patient, nor any of the assistants, were at all aware of its nature. One proposed opening it. Age 56; business, a cake-maker. The leg (right) is somewhat œdematous, walks with pain, knee bent; general health unaffected. Was advised to become an in-patient. The nature of the disease was explained to him, and perfect rest enjoined.

Aug. 15.—Returned, with his bedding and a relative. The tumour is gradually increasing in size. Pulsation distinct over a large surface; under perfect command, by pressure on the femoral artery. The man was put to bed, and Weiss's new screw tourniquet applied, which it was hoped might succeed in lessening the impulse of blood and gradually consolidating the tumour; and if this did not succeed, a gradual and occasional pressure upon the femoral would serve to open a greater collateral circulation around the knee, and thus give the patient a greater chance of success, if it was found necessary to tie the femoral artery. It was found, however, that even occasional pressure could not be borne without severe pain, so that cure by this means was abandoned as impracticable. The tumour beats strongly, is hot and tender to the touch. An operation, by tying the femoral, was now recommended as the only hope. The patient said he was willing, but wished his friends to be consulted first.

18th.—The aneurism is enlarging, is red and increasingly tender to the touch, projects much at one point, and the integuments there are very thin. The full permission of the friends being now obtained, whatever the consequences might be, it was decided, after consultation with Dr. Parker, to operate the following morning. The tourniquet was kept loosely applied over the femoral, ready to be screwed up at any moment by an assistant, who was ordered to be at hand. At 9 p.m. the same evening the aneurism suddenly burst. The blood was projected to a great distance, and about two pounds were lost, when the assistant rushed to the patient and pressed with all his might on the course of the artery till I could reach. The bed was covered with blood, thin and deficient in fibrine. The patient was in a half-fainting state, but quite conscious of his danger; great consternation was impressed on his own countenance, and that of the bystanders; my presence restored confidence. The tourniquet was screwed tight, and a handkerchief was tightly bound round the ruptured tumour. After consultation with Dr. Rowe, (Dr. Parker having been obliged to leave for Macea,) it was decided, all things considered, to be the best course to give the patient the chance of recovering, by tying the femoral, and amputating, if hæmorrhage or other urgent symptoms should seem to demand it. The operation I accordingly performed, kindly assisted by Dr. Rowe, between eleven and twelve p.m. The artery was secured without difficulty or bleeding, about the middle of the triangular space. The edges of the wound were brought together by suture and plaster.

The burst aneurism was slightly dressed and bandaged, the leg elevated, and foot clothed with flannel. Two grains of opium were given to calm the nervous system and to procure sleep. The patient bore the operation without a murmur, chloroform having been administered. This produced excitement at first, causing the poor sick man to laugh and talk in a very incoherent and irrelevant manner, which, at such a time, and with such a scene before us, was strangely out of character; but he soon became calm and motionless, and evidently suffered little, if any pain, during the operation.

19th.—Has had a good night; says he feels much more comfortable than before the operation. The rollers around the limb have become slack, showing that the swelling had diminished. The leg was warm, but the foot colder than the left. Pulse had risen, tongue dry. Changed the dressings and administered castor oil.

19th, p.m.—Going on well, bowels moved, free from pain. The tumour is beginning to slough away. Wound over the femoral artery healing by the first intention.

20th.—Had a favourable night; leg hotter than natural; foot still cold, but sensible to the warm touch of the hand; pulse full and quick; the skin hot, and tongue dry. Ol. ricini, ℥i.

21st.—Patient has been uneasy during part of the night, and is now feverish; tongue dry; pulse 120; thirst; no motion or urine passed for several hours. Gave an injection of hot water, and drew off the urine by catheter. Sent for Dr. Rowe. On dressing the tumour, we found that it had become very offensive, from the large slough that was separating; foot being still cold, had it gently rubbed with flannel, kept as warm as possible. Gave an effervescent saline draught.

8 p.m.—Still feverish. Dressed and carefully supported the limb; the bowels had been freely moved, and urine voided. Complained of pain all over the limb; tender to the touch; leg swollen; foot still cold; no discolouration; gave opium.

22nd, 4 a.m.—Great pain and tension of the limb: very tender near the knee, and upper part of the leg much more swollen; colder than natural; pulse 125; skin hot; countenance anxious; changed the dressings; the tumour has a dark sloughy appearance; very offensive; put the limb in an easy position, and gave opium.

9 a.m.—Mortification has evidently commenced in the foot. The skin is here and there discoloured, cold, and boggy to the touch. There are several elevations of the cuticle, filled with dark-looking fluid. Swelling has greatly increased, and skin is very tense and painful. Pulse 130, weak, and tremulous. Patient's mind is less clear, slightly delirious, restless, and uneasy.

11 a.m.—Had a consultation. Mortification was rapidly extending. The only hope was amputation. But the prospect of a successful termination appeared so slight, that we did not think it right to recommend it. The patient being very weak, the cellular tissue and skin all round the knee becoming discoloured and emphysematous, added to danger of secondary hæmorrhage on the ligature coming away, with the doubtful termination of an amputation. These things considered, could give little, only a bare hope, of saving the patient's life, insufficient to warrant another formidable operation, especially when it was considered, that if the patient died under, or immediately after the operation, the blame then would probably fall upon the surgeon, and prove detrimental to the interests of the Institution.

8 p.m.—Much the same. The whole leg is tense, dark and swollen. The tumour in the ham even in this stage appears gradually separating. Opium 1½ grains.

23rd.—The man is passing rapidly to dissolution. Pulse very quick and feeble; mind conscious. Mortification above the knee. The poor patient knew his fate; the friends and himself were both satisfied that everything had been done that could reasonably be expected, and expressed their gratitude. He was removed, by boat, to his residence at Fat Shan, a few miles off, and soon after he arrived there died. By this arrangement his friends were pleased, and the other patients in the hospital were free, and happy to continue in their ward. If the patient had died there, not one would have dared to remain in that room; and the beds would only have been re-occupied by new patients ignorant of the event. Chloroform has a very happy effect upon the Chinese. It was administered a short time since to a man whose arm was amputated from severe gun-shot wound of the hand. In another, in the dissection of a schirrus glandular tumour from the sub-maxillary region. In both these and other cases it rendered the patients quite unconscious of pain, and was not followed by the least ill effect; the taking of such a remedy is greatly in accordance with the wishes of the people, and disposes many to consent to surgical operations, who otherwise would not dare to submit to them.

Yours, &c.

BENJ. HOBSON, M.B., M.R.C.S.

MEDICAL NEWS.

APOTHECARIES' HALL.—Names of Gentlemen who passed their examination in the Science and Practice of Medicine, and received Certificates to practise, on Thursday, 1st Nov., 1849:—Joseph Hughes Hemmings, Kimbolton, Hants; John Cox Lynch, Norwood; William Ferdinand Wratislaw, Rugby; Thomas Pettit Wright, Chatteris, Cambridgeshire.

ROYAL COLLEGE OF SURGEONS.—The following gentlemen having undergone the necessary Examinations for the Diploma, were admitted Members of the College, at the meeting of the Court of Examiners on the 2nd inst:—Messrs. Robert Hamilton, Ipswich; John Thompson Goodrich, Paington, Devon; Richard Allanson Gaskill, St. Helen's, Lancashire; Charles Anthony Floyer, Floore, Northamptonshire; William Martin Hatfield, Chilham, Kent; Henry Taylor, Bury St. Edmunds, Suffolk; John Gilby Townsend Rossiter, Bristol; Thomas Croft, Bracknell, Berkshire; John Lascelles Nowell, Liverpool; Edward M'Kellar, Madeira; Samuel Reynold's, Debach, Suffolk; and Henry Dixon, Stockton-upon-Tees.

NAVAL SURGEONS.—At the last meeting of the Court of Examiners of the Royal College of Surgeons, Mr. William Evans passed his examination for Naval Surgeon. This gentleman had previously been admitted a Member of the College, his Diploma bearing date July 3, 1846.

THE FELLOWSHIP.—We understand, that, in consequence of the new regulations from the College coming into operation in the ensuing year, making it compulsory on all junior candidates presenting themselves for the honour, to undergo examinations in the classics and mathematics, a larger number than usual will present themselves for examination at the ensuing meetings on the 4th and 6th of December.

METROPOLITAN DISPENSARY. — Dr. Edwards Crisp has been unanimously elected Physician to this excellent Institution.

SOUTH LONDON MEDICAL SOCIETY. — Mr. Charles Taylor, of Camberwell, has just had awarded to him the prize of thirty guineas from this Society, for his "Essay on Infantile Remittent Fever, with especial reference to its Diagnosis from Incipient Hydrocephalus."

HEALTH OF LONDON DURING THE WEEK.—(From the Registrar-General's Return)—The mortality of London, which fell below the weekly average of five autumns, in the second week of October, has steadily continued to decline during the three subsequent weeks. The present return shows, that only 837 deaths were registered in the week ending last

Saturday, while the average is 1,162; (allowance being made for increase of population on previous years;) the decrease is, therefore, 325. A comparison of returns made for the same week, in the last ten years, shows, that, in any of the nine weeks, the mortality has not been so low as at the present time; in the corresponding week of 1841, the deaths were 840; in that of 1848, they were 1,115, after cholera had given warning of its presence Only 11 deaths from cholera were registered in last week; in the three preceding weeks they were successively 110, 48, and 25, declining by nearly a geometrical progression. Of the 11, one occurred in Lower North-street, Chelsea; two in the workhouse of St Martin-in-the-Fields (one having been that of a girl brought from a house in Bedfordbury, the condition of which is minutely described by the registrar); one in Claremont-place, Gray's-inn lane, one in George-yard, Saffron-hill; two at No. 12, Sevenstep-alley, Gravel-lane, one in the Lunatic Asylum, Hoxton-house, one in Maidstone-place, "a very low and ill-drained spot" in Haggerstone (East), one at 4, Paternoster-row, Spitalfields, where the mother of the deceased died five days afterwards of "diarrhœa," and one in Wycombe-place, Kent-road. In the last week 40 deaths were registered from diarrhœa and dysentery (the average is 27); in the three previous weeks they were 105, 63, and 51. Two of these in the present return occurred at Jenning's-buildings, Kensington, a locality which has frequently obtained unfavourable notice in the records of the late epidemic Typhus was fatal to 37 persons, the average is 56 Other epidemics are still under the average The mortality from small-pox and measles continues unusually low A woman of fifty-seven years died of "inflammation from a plum-stone lodging, thirty-three days before death, in the colon, and producing thickening and complete obstruction "—*Post mortem* In two cases intemperance is stated to have been the cause of death.

Continental Progress of Cholera.—The epidemic has now disappeared almost completely from the North of France, but it is spreading rapidly along the southern border of Europe, and extending from the territory of Algiers to the very heart of the African desert. To arrest, if possible, its ravages in Algiers, the French Government has ordered the troops to be dispersed in rural cantonments, wherever circumstances will permit of this mode of quartering the military The measure has been followed by excellent results, so far as regards the propagation of cholera, but, unfortunately, it cannot be carried to the fullest extent in Africa, because there the mortality—contrary to what is observed in civilised countries—is much greater in the rural districts than in the towns Still it does not much exceed 50 per cent on the attacks, which appears to be about the average in almost every part of Europe Thus the most recent accounts from Lombardy, through the *Mantua Gazette*, give the following results up to the 29th —

	Attacked	Died
Mantua	276	173
Milan	900	588
Bergamo	3028	1652
Brescia	851	495
	5015	2908

Showing a mortality of 57 per cent in these four towns.

Surrey County Lunatic Asylum.—There is a vacancy for a Medical man, well versed in the treatment of insanity, in this asylum. The office is called "*The Medical Superintendent of the Female Department*" Candidates must be married, between thirty and forty five years of age, Members of a College of Surgeons, and hold the license of the Society of Apothecaries. The emoluments are 350*l* per annum, with furnished apartments and coals

Percival Kirton, Esq, has been appointed Colonial Surgeon for the settlements in the Gambia

Middlesex Hospital.—A Quarterly General Court of the Governors of this Hospital was held on Friday last, when the Report of the Secretary stated, that the balance at the banker's was 1,148*l* 14s 8d, the balance from the Samaritan's Fund being 159*l* 6s 2d Within the last three months, 540 cholera out-patients had been attended; and 58 cases admitted into the Institution. During the quarter two legacies of 100*l*. each had been received, and another of 500*l* bequeathed, but not yet paid in At the suggestion of the lecturer, the Board had resolved that a lectureship on Comparative Anatomy be instituted at the School of Medicine connected with the Hospital.

Cholera.—The *Nouvelliste* of Marseilles gives the following details on the visitations of the cholera to that city.—"The first invasion, which commenced the 8th December, 1834, and finished the 1st April, 1835, carried off 2,741 persons, or an average of 24 per day. The second invasion commenced 12th July, 1835, and ended the 19th September of the same year, and carried off 4,532 persons, or an average of 70 a-day. The third invasion commenced the 19th August and ended 11th October, 1837, and caused 2,460 deaths, or 47 per day. The fourth invasion commenced the 6th August, 1849, and up to 25th October caused 3,502 deaths, or 44 per day The duration of the cholera on its four visits has been 314 days, the total deaths 13,235, the average per day 42 The average deaths per day, in ordinary times, is 15"

Obituary.—June 19, Surgeon John Ross, Residency Surgeon, at Bagdad—Sept 9, at Barrackpore, Surgeon C Llewellyn, M D, 40th Native Infantry —Aug 27, at Lahore, of apoplexy, Assistant-Surgeon George Thomson, M D, 3rd Brigade Horse Artillery —Nov 1, Dr Henry Graham, of Edinburgh—Oct. 29, William Brice, Esq, aged 32, late Assistant-Surgeon of H M S. Blazer.—At Brinklow, on Sunday, the 4th instant, in his 31st year, Francis Allcock Oldaker, Esq, M R C S

Public Hygiene.—Beneficial results have already begun to show themselves, from the late scourge of cholera which we have experienced Those hot-beds of fever and disease, the dwellings of the artisan, in populous towns, but more particularly in London, have become exposed to public gaze and public reprobation, is alike destructive to health and morality We have at length begun to perceive, that their pestilential character affects, not only their unfortunate inhabitants, but the community at large, and, unless the evil be met and remedied, the social as well as the physical state of the country may become endangered The extensive parish of Lambeth, in vestry assembled, have unanimously determined on providing public baths and wash houses for the working-classes This is a step in the right direction But, they must go further, or their efforts will prove futile They must not allow the washed to return and "wallow in the mire" Water must also be conveyed to the humble dwelling, and, above all, closets either public or private, must be provided. The want of this accommodation has, perhaps, been more mischievous in its effects, in every way, than the want of water In a recent lecture at King's College, allusion was made to the use of peat charcoal, as the most simple effective, and cheapest method yet brought forward for the accomplishment of this reform, and the high authority of the parties making the suggestion, should most seriously draw the attention of the public to the means suggested Experiments were performed before the Medical Society of the above College by Mr Jasper Rogers, which fully proved the soundness of the principle in question, and that it was *not* one of the many quackeries of the present day We hear that the town of Windsor contemplates adopting the plan, and that Mr Rogers is in communication with the Board of Health there on this important measure We shall watch with much interest the application of this principle on an extensive scale

Revolutions and Insanity.—The agitations of the last two years have, according to the reports of medical officers, increased the number of cases of mental disease to an extent far beyond the average of former years, the fact is proved by the returns from all the lunatic asylums of Germany The same result was observed in France in 1848 Such is the statement of the *Times'* Correspondent It has long been known, however, that in seasons of great political excitement cases of insanity more frequently occur This was noticed in the French Revolutions of 1792 and 1830, as well as in 1848

Asylum for Idiots.—A General Meeting of the supporters of this Institution was held last week at the London Tavern, Alderman Sir George Carroll in the chair The Report of the Directors for 1849 gave a very favourable review of the progress of the Institution Drs Conolly and Little had given their gratuitous services as physicians, and the services of Drs Forbes and Sutherland, and Sir J Clark, were mentioned in warm terms The patients in the Institution were divided into two classes—those elected, and those who were paid for The charges were varied, from 25 to 50 and 100 guineas per annum, according to circumstances, but the paid patients were all on an equal footing—had first-class rooms, and best diet, while every branch of education, however expensive, was open to them all A marked improvement had taken place in the condition of many of these helpless beings. The present premises did not afford sufficient accommodation, and it was necessary that another house should be provided, as there were several paying patients waiting for admission, in addition to those to be elected that day His Royal Highness Prince Albert, and His Royal Highness the Duke of Cambridge, had recently honoured the Asylum by their presence, and expressed great satisfaction at the arrangements adopted. Correspondents from the most distant countries had been invited to witness the operation of the charity. The meeting then proceeded to the election of 12 candidates, from a list of 152. The names of the successful candidates were declared at the close of the poll, and the meeting separated, after a vote of thanks to the Chairman.

Rapid Bronchotomy.—M. Chassaignac, Surgeon to the Hospital Saint Antoine, at Paris, lately performed the operation of tracheotomy on a child affected with croup, in the following expeditious manner —The larynx was steadied by thrusting a tenaculum through the cricoid membrane and the skin; the subjacent tissues and the rings of the trachea were then divided by one cut of an ordinary pointed bistoury. When a canula is not immediately at hand, Monsieur Chassaignac passes through each lip of the wound a thread fastened to a needle thrust through a fold of skin on either side of the trachea.

Intra-Uterine Crying.—Professor Vannoni has just published, in a Florence paper, two cases, which tend to establish the possibility of fœtal intra-uterine crying. The Professor explains the phenomenon by the penetration of some of the air accumulated in the ovum into the trachea of the fœtus.

The Parisian Medical Session, which commenced on the 2nd November, presents little promise of being a brilliant one. Medical affairs, as well as all others, are dull to an extreme, and the hospitals and hotels suffer from the momentary collapse The former are full of patients, but all the medical celebrities have retired to the country, and treat their patients by proxy The hotels, on the contrary, are empty of students, and for the most part tenanted by their masters alone, a very unprofitable species of occupancy. Here and there in the *Quartier Latin*, a lank American or a stray English doctor, may be seen, but that once busy and joyous quarter is now comparatively a desert; hardly a French student is to be met with in its once crowded streets, and the establishments which they were wont to support, are now closed, or rapidly falling into decay This unfortunate state of affairs depends partly on the competition of the provincial Schools of Medicine, but mainly on the circumstance, that parents are unwilling to expose their children to the danger of a residence in Paris during these troubled times of disorder or insurrection,—and they are right Amongst the 15,000 prisoners cast into the forts, or buried in the caverns of the Thuilleries, after the affairs of June, were many hundreds of medical students, many have never been heard of since those terrible days, while the majority, without the shadow of trial or judgment, condemned by the military tribunals, were transferred to the *pontons* and thence transported to Africa. It will, indeed, be a long day before the country can recover the effects of that civil battle, or of the re-action, scarcely less fatal, which followed it. The monotony, however, of the Parisian Medical campaign will be somewhat relieved on the 15th of the coming month, by a *concours* for the chair of operative surgery, which has recently been added to the faculty of medicine. The *concours* will, it is expected, be a brilliant one, and bring forth nearly all the young surgeons of any pretension

Medical Geology.—A paper was lately read before the American Association for the Advancement of Science by J A Lapham, of Milwaukie, founded on a suggestion of Dr. Jackson, that cholera rages with peculiar violence in limestone districts. The limestone rock is entirely denuded in Sandusky city, soil enough to support shade trees does not exist, and here, out of a population of 2500, the deaths varied from 12 to 33 daily, equivalent to 6000 daily for the population of New York No bad illustration of the great leaps to conclusions which men take when they hunt for notoriety.

The Polar Plant.—Major Alvord has discovered a singular plant of the Western Prairies, said to possess the peculiarity of pointing north and south, and to which he has given the name of Silphium Laciniatum No trace of iron has been discovered in the plant, but as it is full of resinous matter, Major Alvord suggests its polarity may be due to electric currents

Plants of Wisconsin.—This region was first explored by Nuttall in 1816 In 1821 Messrs. Douglass and Torry published in *Silliman's Journal* the characteristics of the plants The last notice is in Schoolcraft's Narrative of an Expedition through the Upper Mississippi to Itasca Lake in 1832. The present enumeration contains 111 natural orders, 416 genera, and 840 species. Professor Gray considered the Flora as identical with that of the Great

Lakes, except in the north, where the Alpine character appears.

ZANTHIDIUM OF EHRENBERG.—Professor Agassiz maintains, that the zanthidium is not an animal, as supposed by Ehrenberg, but a plant of the family of algæ, and that the granules, considered by Ehrenberg as eggs, were, in reality, the seed capsules. The entire capsule consists of beautiful hexagonal cells. Professor Gray remarks, that it differs from any genus of the proper algæ that had fallen under his notice.

RELATIVE VALUE OF DIPLOMAS.—A contest is going on amongst some of the physicians of a country town (celebrated for giving a title to one of our dukes, and for its rich charities) for the office of Physician to the Infirmary. In a newspaper advertisement, one of the candidates appends to his name the following titles:—M.D., Graduate of the University of Edinburgh, Licentiate of the Royal College of Physicians of London, Fellow of the Royal Medical and Chirurgical Society, late Physician to the Metropolitan Free Hospital, formerly Physician to the Westminster General Dispensary, also Physician to the Chelsea, Brompton, and Belgrave Dispensary; Honorary Physician to the Shropshire Eye and Ear Infirmary, Member of the Royal Institution of Great Britain, Author of practical Observations on Cataract and Closed Pupil, On Amputation of Arm at the Shoulder joint, and on Compound Fractures Illustrated by cases. In another advertisement, the same Physician gives reasons why the Degree of M D., obtained from the University of St. Andrews "is but lightly esteemed, as evidence of superior medical attainments." We hope some means will soon be adopted to make medical education in this country more uniform, which will do much to annihilate this strife about superiority of Degrees. Why should not candidates for hospital appointments have their professional knowledge practically tested?

COPAIBA CAPSULES.—Capsules are occasionally to be met with in the market, purporting to be copaiba capsules, but which do not contain one particle of the balsam. A Correspondent informs us, that he examined some of these spurious articles, and found that they were filled solely with train oil. He further states, that his experience in this matter has been confirmed by that of others. The fraud in this instance is very reprehensible, and the dealers ought to be punished.

PROTECTION OF LIFE IN SEWERS.—At a meeting of the Metropolitan Commission of Sewers, on Friday last, Captain Dawson brought forward the plan of a very ingenious contrivance sent to him by Mr. E. Lebethan, for the protection of life in sewers. The contrivance consists of a helmet constructed like that worn by divers, and which is connected with a chamber placed on the back of the sewersman, containing a reservoir of condensed air. It was referred to the General Committee for examination.

MORTALITY TABLE,

(Metropolis.)

For the Week ending Saturday, Nov. 3, 1849.

CAUSES OF DEATH.	Total	Average of Five Autumns.
ALL CAUSES	837	1162
SPECIFIED CAUSES	834	1158
Zymotic (or Epidemic, Endemic, and Contagious) Diseases	211	307
SPORADIC DISEASES		
Dropsy, Cancer and other Diseases of uncertain or variable seat	37	49
Tubercular Diseases	162	178
Diseases of the brain, Spinal Marrow Nerves, and Senses	93	125
Diseases of the Heart and Blood vessels	28	40
Diseases of the Lungs, and of the other Organs of Respiration	120	211
Diseases of the Stomach, Liver, and other Organs of Digestion	48	65
Diseases of the Kidneys, &c.	13	11
Childbirth, Diseases of the Uterus, &c.	8	11
Rheumatism, Diseases of the Bones, Joints, &c.	2	8
Diseases of the Skin, Cellular Tissue, &c.	1	1
Malformations	3	4
Premature Birth and Debility	16	23
Atrophy	21	18
Age	38	57
Sudden	10	12
Violence, Privation, Cold, and Intemperance	20	36
Causes not Specified	3	4

The following is the number of Deaths occurring from some of the more important special causes:—

Apoplexy	11	Heart	37	Phthisis	113
Bronchitis ...	34	Hooping-cough	33	Pneumonia ...	70
Cholera.........	11	Hydrocephalus	27	Scarlatina	41
Childbirth	3	Influenza	9	Small-pox	9
Convulsions...	31	Liver	14	Stomach	6
Diarrhœa	31	Lungs	4	Teething	6
Dropsy	18	Measles	16	Typhus	37
Erysipelas ...	6	Paralysis	26	Uterus	4

BIRTHS AND DEATHS.

	Births.	Deaths.	Births over Deaths.
Males	712	404	308
Females	704	433	271
Total......	1416	837	579

METEOROLOGY OF THE WEEK.

Day.	Mean of Barometer.	Mean of Thermometer. Dry	Ditto Dew Point	Difference between the Mean Temperature of the day and the same day on an average of 7 years.	General Direction of Wind. A.M.	General Direction of Wind. P.M.	Amount of Horizontal Movement of the Air.	Rain in Inches.	Electricity.*
Sunday	30 293	54 2	51 0	+ 5 8	N.	W S.W	Miles 70	0 00	Nothing.
Monday	30 433	5 6	44 7	+ 4 5	S.W	S E.	55	0 0	Nothing.
Tuesday. ...	30 037	51 1	38 7	+ 4 5	S E.	S.	115	0 00	Nothing.
Wednesday	29 557	46 7	39 9	0 0	S. & N. W.	W.N.W. & S	75	0·00	Nothing.
Thursday ...	29 413	48 7	43 4	+ 2 1	S E & E	S.E. & E	50	0·00	Nothing.
Friday	9 501	50 0	45 0	+ 3 8	E N E.	N E.	75	0·0	P. and tension weak.
Saturday ...	29 329	51 0	49 3	+ 5 0	N E	N.E.	30	0 00	Nothing.
Means ...	29 807	50 3	44 6	+ 4 1			Sum 500	Sum 0 00	

* In this Column, A stands for Active; N for Negative; and P. for Positive.

DRAINAGE OF LEEDS.—The Town Council of Leeds, which but a little while ago dismissed the sewerage question by a *sine die* postponement, has now resolved to have the whole of the town thoroughly drained. It will be effected by means of a main trunk sewer, which will be carried under the bed of the river Aire, and extend beyond the boundary of the borough, towards the south-east, where it will have an outlet for the sewerage in the lands belonging to Mr. Dugram, of Temple Newsam.

TO CORRESPONDENTS.

THE QUARTERLY RETURN OF THE REGISTRAR-GENERAL—This valuable document came to hand too late in the week for us to give it the requisite attention; but in our next Number it shall receive our careful consideration.

"A Young Practitioner" consults us as to the safest and and the surest road to success. We reply—"Think much little.

"Studens."—We wish Studens would refer to his books. For once we reply to him. 1. In the Arctic regions distant objects are comparatively clearer, and sounds are heard at a greater distance than in other climates. 2. In air sound travels at 1142 feet per second; in water, at the rate of 4709 feet per second.

"Mr Bulley's" cases of "Billous Cholera treated by hot water applications to the abdomen will appear in our next number

If "O. Z." will favour us with an address where a private letter may find him, we will write to him. In the mean we reply to his questions. No. 1. Almost invariably. No. 2. Certainly not. No. 3. Certainly not. No. 4. Probably not.

"A Constant Reader" is recommended to apply to the Medical Protection Society, at their office, 48, Lincoln's-inn-fields, London.

"Mr. O'Neill's" application has been received and answered.

"A.B.C."—We have not lost sight of Mr. Clay's work on "Ovariotomy." We take blame to ourselves for not noticing it earlier.

"Smoke."—"The juice of cursed hebenon" was probably the essential oil of tobacco; since we learn from old Gerarde, that, in Shakspeare's time, tobacco was commonly called henbane of Peru. We quite agree with King James, that "smoke becomes a kitchen fire better than a dining chamber; and yet it makes a kitchen oftentimes in the inward parts of men, soiling and infecting them with an unctuous and oily kind of soote." "It is a custom," continues His Majesty, "loathsome to the eye, harmful to the brain, dangerous to the lungs, and in the black, stinking fume thereof, nearest resembling the horrible stygian smoke of the pit that is bottomless."

Mr. H. Hughes' Work, to which our Correspondent alludes, we have not yet received.

"Mr. Moyle's" letter, and "Mr. Leithead's," on Mr. Ebsworth's views of the communicability of the Cholera Poison from man to man, have been received, and will have our early attention.

"Mr. Daniell, of Newport Pagnell," must receive our apologies for an oversight.

"Mr. Dalrymple" writes us as follows.—"Sir,—I will thank you to correct an error which has crept into your report of some observations of Dr. E. Crisp at the Medical Society of London, on the 8th ult., and which appeared in your Journal of the 27th ult. Dr. E. Crisp is there made to say I had 'recognised as the larvæ of snails' certain vomited matters. The fact is, Dr. E. Crisp showed me some objects which had been vomited by a young lady, and which, for some time, had been believed to be living entozoa. It having been positively stated that these bodies moved when first rejected and on being placed in warm water, I immediately recognised these bodies as the generative organs of the snail, and referred Dr. Crisp to the little calcarious body to be found in the bulbous portion of these organisms. The explanation was simply that the generative organs of the snail being particularly firm, and almost of cartilaginous hardness, had not been as easily digested as the softer bodies."

"A Young Psychologist" writes to know whether insanity may be produced by an injury to the head, and how long before morbid symptoms are developed. It is possible for blows on the head, at first followed by symptoms of concussion or compression, afterwards to produce mental alienation. This may vary in degree, from a slight peculiarity of character, to the most serious dementia. Morbid mental symptoms may not be immediately developed after the receipt of an injury, for years have been, in some cases, known to elapse before the mind has become disordered. In some cases, however, blows on the head, so far from producing insanity, have been known to improve the mental powers

"G M, Boston," asks the best method of ascertaining the density of urine. By employing the urinometer, an instrument originally suggested by Dr. Prout. It has a scale divided into 60°, the zero being the point at which it floats in distilled water. The numbers on the scale, added to 1,000, give the various specific gravities Thus, if the instrument is placed in urine, and the number cut be 30, the fluid has a specific gravity of 1,030.

"Leonard."—A good plan for detecting a small quantity of nitric acid in a liquor, is, to neutralize the acid with a solution of potash, and evaporate to dryness The salt crystallizes in sharp needles, and deflagrates, when placed on ignited charcoal, heated with a little bisulphate of potash and some copper filings, it evolves copious red flames, and, with a drop of sulphuric acid and a crystal of protosulphate of iron, an olive coloured ring is formed.

"Chirurgus" inquires how long it is possible for a person to exist without food. It will depend greatly whether he has access to any liquid to relieve the intense thirst commonly experienced. A very small quantity of water is capable of prolonging life.

"Amicus."—A person desirous of having a house licensed for the reception of lunatics, must, if such house be in the jurisdiction of the Commissioners in Lunacy, give notice to them, if elsewhere, to the Clerk of the Peace for the county or borough in which the house is situated, fourteen days prior to some quarterly or other meeting of the Commissioners, or to some General or Quarter Sessions for the county or borough.

"Mr. R. C. Browne, of Tamworth," in returning our Cholera Table, writes as follows.—"I have had 171 cases of English cholera and diarrhœa, and after two or three doses of calomel and opium, found the best effects, where sickness and diarrhœa remained, from two drops of hydrocyanic acid and ten grains of soda and creta every two or three hours. I have also found it very useful in the febrile state in allaying pain and irritation of stomach externally, in the proportion of eight to ten drops of acid hydrocy. to ℥i. of water applied by means of rags dipped in it."

"Singleton's Ointment."—We are obliged by our Correspondent's polite note, and shall be glad to hear from him upon the subject.

"An Old Subscriber," dating from Hampstead-heath, inquires for the best and most comprehensive work on skin diseases. The best work hitherto published, that of Dr. Burgess, is confined to the eruptions of the head and hands. Mr. Erasmus Wilson's will, probably, when finished, be the most comprehensive.

We are obliged this week for want of space to leave unanswered many esteemed correspondents.

ERRATUM.—In the "Statistics of Cholera" in our last, p. 350, col. 1, line 5 from the bottom, for "the *least* in one day," read, "the next less in one day."

ORIGINAL LECTURES.

LECTURES ON THE CHEMISTRY OF THE POISONS; OR, ON PRACTICAL TOXICOLOGY.

SHOWING THE APPLICATIONS OF CHEMISTRY TO THE DISCOVERY OF CRIME.

By H. LETHEBY, M.B., Lond: Lecturer on Chemistry at the Medical College of the London Hospital.

LECTURE IX.

Modes of purifying sulphuric acid.—Dupasquier's method.—Haye's process.—Difficulties connected with the distillation of the acid.—Ure's directions.—Lembert's directions.—Process of rectification to be adopted in actual practice.—Fraudulent uses of sulphuric acid and its salts.—Adulteration of vinegar and wine.—Modes of discovering the fraud: Orfila's, Lassaigne's, Ure's.—Alum and other sulphates in bread.—Production of starch sugar, and its employment in the adulteration of cane sugar.—Modes of recognising the fraud.

MODES OF PURIFYING SULPHURIC ACID.

On considering the nature of the impurities which commonly exist in crude oil of vitriol, it will be evident to you that the contaminating agents cannot be entirely removed by simply distilling the acid, inasmuch as many of them are volatilized at about the same temperature as that at which the acid itself boils. It is necessary, therefore, either to fix these impurities, or to decompose them before we submit the liquid to such an operation; and several suggestions have been offered in the hope of effecting one or other of these desirable objects; for instance, Dupasquier asserts that the earthy and alkaline sulphurets afford an easy and a certain method of decomposing two of these impurities—namely, nitric and arsenic acids. He states, moreover, and so does Mr. Reuben Phillips, that the sulphuret of barium is best suited to this purpose; and he recommends it to be employed in the following manner:—

Take the crude acid from the leaden chamber, and dilute it with water until its density is about 1350. If we employ it much stronger than this, the precipitates hereafter to be formed in it do not subside very readily. Apply heat to the liquid, and when its temperature has risen to about 212° of Fahrenheit, stir in a portion of crystallized sulphuret of barium. Allow the precipitate thus formed to subside, and carefully remove the supernatant clear liquor, in order that it may be concentrated, and further purified by a subsequent distillation. The *rationale* of the operation is the following. When sulphuret of barium (Ba.S) is thrown into dilute oil of vitriol, some of the water (H O) of the acid is decomposed, and, by reason of a mutual re-action, or, interchange of elements, baryta (Ba O) and sulphuretted hydrogen (H S) are produced. The former compound immediately unites with sulphuric acid, and is precipitated as an insoluble sulphate (Ba O, S O3) while the latter escapes in a gaseous form; and, meeting with arsenic acid, it re-acts on this impurity, and produces an insoluble sulphuret of arsenicum, which, with the sulphate of baryta before-mentioned, is deposited as a flocculent yellowish white precipitate. The quantity of sulphuret of barium required for the purification of the acid must depend on the amount of arsenic contained in the liquid; and, therefore, some preliminary trials must be made in order to determine this point. As a general rule, however, Dupasquier has found that one part, or at most, one part and a half of the sulphuret is quite sufficient for the purification of 500 parts of arsenical sulphuric acid; and he recommends the use of the crystallized sulphuret, upon the grounds that its decomposition is more slow and steady, and that the liberated gas is, therefore, enabled to act for a longer time, and to a greater extent upon the arsenical impurity. You may, however, have to encounter some difficulty in procuring the crystallized salt. Under such circumstances, I advise you to resort to the common sulphuret of this base,—a preparation which is easily obtained by igniting a mixture of sulphate of baryta and wood charcoal. In point of fact, you will find that this very accessible compound is in every way suited to the purpose intended, and that it will readily dearsenicate a large portion of impure acid at one operation. To procure this sulphuret you are to mix sixty parts of powdered sulphate of baryta with thirty of wood charcoal, and ignite the mixture for ten or fifteen minutes in a well covered crucible, taking care that the ignition is complete, and that the atmosphere is properly excluded. If you do not attend to the latter precaution, the sulphuret will be again oxydised and converted into sulphate of baryta, which is an inert compound. A second mode of purifying the crude acid has been recommended by Mr. Hayes, an American chemist; but I apprehend that the process is too uncertain, and too difficult of management for very general use. I will, however, give you an outline of his mode of operating. He takes the acid at once from the leaden chamber,—when, as he says, it contains sulphurous acid, muriatic acid, hyponitric acid, arsenious acid, oxides of lead and iron, alumina, lime, soda, and organic matter; and to this impure acid he adds a little nitrate of potash, which destroys organic matter, and raises the sulphurous and arsenious acids to a higher state of oxydation. He then adds about the 1-300th part of sulphate of ammonia, which removes any trace of hyponitrous acid. After this, the liquid is evaporated, until it reaches a density of 1780, and when cold, it is poured into deep leaden vessels, which are kept at a temperature of 32° Fahr. Here the insoluble impurities of the acid subside; and when the supernatant liquor has become perfectly clear, it is run off into shallow lead vessels, which are cooled down to the temperature of zero. By this means the acid is frozen, and large crytals of the binhydrate of sulphuric acid are formed. When these have increased so as to about half fill the vessel, the unfrozen portion of the liquid is rapidly poured away, and the crystals are washed with some acid of a former freezing. These crystals, according to Mr. Hayes, afford, on melting, an acid which is nearly pure.

The acids obtained by the foregoing processes have yet to be distilled, before they can be regarded as pure; for they may still contain certain saline matters which have not been eliminated during any of the operations to which they have been subjected; and in order to effect this you must proceed with considerable caution. "I take," says Dr. Ure, "a plain glass retort, capable of containing from two to four quarts of water, and put into it about a pint measure of sulphuric acid, and a few fragments of glass, connecting the retort with a large globular receiver, by means of a glass tube four feet long, and from one to two inches in diameter. The tube fits very loosely at both ends. The retort is placed over a charcoal fire, and the flame is made to play gently on its bottom. When the acid begins to boil smartly, sudden explosions of dense vapour rush forth from time to time, which would infallibly break small vessels. Here, however, these expansions are safely permitted, by the large capacity of the retort and the receiver, as well as by the easy communication with the air at both ends of the adapter tube. Should the retort, indeed, be exposed to a great intensity of flame, the vapour will, no doubt, be generated with inconceivable rapidity and break the apparatus. But this accident can proceed only from gross imprudence. It resembles, in suddenness, the explosion of gunpowder, and illustrates admirably Dr. Black's observation, that, but for the great latent heat of steam, a mass of water, powerfully heated, would explode on reaching the boiling temperature. I have ascertained that the specific caloric of the vapour of sulphuric acid is very small, and hence the danger to which rash operators may be exposed during its distillation. Hence, also, it is unnecessary to surround the receiver with cold water, as when alcohol and most other liquids are distilled. Indeed, the application of cold to the bottom of the receiver generally causes it, in the present operation, to crack. By the above method, I have made the concentrated oil of vitriol to flow over in a continuous slender stream, without the globe becoming sensibly hot."

A modification of this process has been recently recommended by M. Lembert, who says, "I introduce into the retort some pieces of *quarzite*, a variety of granulated quartz, resulting from the conglomeration of particles of that substance, probably under the influence of a high temperature. It is important to choose this variety, the others giving far less satisfactory results. The shape of the pieces is by no means a matter of indifference, with reference to the success of the process. I have remarked in a great number of distillations, that the fragments obtained by striking on the edge of a former cleavage facilitate the distillation better than very thick pieces. The number, as well as the size of the pieces, must also be observed. If they are too small, and in too small a quantity, the bumping may occur, because the fragments are easily lifted by the vapour which is disengaged; consequently the bottom of the retort, being no longer covered with the siliceous substance, assumes the condition of a smooth vessel, and the vapour is produced with difficulty. If they be small, and in too great quantity, the ebullition is irregular, bumping occurs without distillation, bursts of vapour take place at intervals, the liquid rises in the retort; and if the latter be rather full, it may pass over into the neck. The fragments should be at least a centimetre (one-third of an inch) in length, for the operation to succeed well. I use them generally as large as the neck of the retort will allow. Ten or twelve scales of *quarzite* of this size are sufficient to distil readily several pounds of acid. It is well to cover the retort,—that is to say, to distil in a reverberatory furnace, furnished with a dome; without this precaution, the distillation would proceed very slowly, although the ebullition might be very brisk, because the vapour of sulphuric acid being very heavy, and only existing at a high temperature, would condense before reaching the neck of the retort. This process, which is very simple, is especially advantageous, since it may be applied to the distillation of many other liquids. In fact, the substance employed to facilitate the ebullition is unalterable by nearly all chemical agents, and for the last three or four years I have employed it in nearly all my distillations.

In the process just described, the quarzite acts by its numerous rough surfaces in facilitating the formation of the vapour; but theory shows that the same result might be obtained, that is, the distillation without bumping, if the acid could be made a better conductor of heat. To this end, M. Lembert proposes to dissolve from one to two ounces of sulphate of potash, or of well dried sulphate of soda, in each pint of the oil of vitriol, and then to distil over about two-thirds, or at most three fourths, of the acid, leaving the remainder in the retort to be mixed with more acid for another operation. If the distillation be carried beyond this point there is some danger to the retort; for the temperature at which the liquid boils rises in proportion as the acid solution becomes more concentrated; and if it be concentrated too much, that is, if the distillation be carried too far, there would remain little more than the bisulphate of the alkali; under which circumstances the residue would become so hot as to endanger the solidity of the glass. In fact, the softening and bulging out of the retort will often take place even at an earlier stage of the process than this is.

Of these two processes, says M. Lembert, I prefer the first; and although it may be sufficiently efficacious, since those to whom I have shown it, and who have practised it, have been astonished at the facility with which the acid distils by this method, yet the process may be rendered more easy still by combining the two, that is to say, by putting into the cucurbit both the sulphate and the quarzite. Then, except the elevation of temperature, the sulphuric acid boils as easily and with as much regularity as water.

There are, however, two precautions connected with this process, which I ought to mention to you. First, you are not to distil your acid too frequently from the same quarzite; for the angles and points of the mineral are very liable to become rounded; and, secondly, do not expose the neck of the retort to currents of cold air; for if you do so, the sudden

alteration of temperature will infallibly break it. Every time, says M. Lembert, that my retorts have been broken in distilling sulphuric acid, the accident has happened in this way. Lastly, I ought to inform you of the results of Mr. A. Rose's investigations into this matter; for he has examined the subject with great care, in order to discover a means of separating the compounds of azote and oxygen from sulphuric acid. This chemist states, that when strong oil of vitriol, holding binoxide of nitrogen and nitric acid in solution, is distilled, water and nitric acid first pass over into the receiver, then follows pure sulphuric, and lastly sulphuric acid and binoxide of nitrogen are vaporised. If, however, the oil of vitriol be diluted with about twice its bulk of water before it is introduced into the retort, then the nitric acid, water, and binoxide of nitrogen of the liquid are the first products of its distillation, and by changing the receiver as soon as these have flowed over, pure sulphuric acid may be collected until the process is at an end.

I have been thus minute in recounting the experience of our most practical chemists, and in detailing the processes which have been suggested by them for the purification of oil of vitriol, in the hope that you may fully perceive the difficulties connected with the subject, and be enabled to deduce such an amount of information therefrom, as will enable you to conduct these operations with safety and success; for, as I need hardly tell, however cautious and careful you may have been in making choice of the sulphuric acid to be employed in your analytical researches, you will frequently be perplexed by an inability to obtain a strictly pure article; and under these circumstances you are compelled to rectify the acid for yourselves.

Taking advantage, therefore, of the various suggestions which have been offered to us, we may proceed to purify sulphuric acid in the following manner:—Take the crude oil of vitriol of commerce and mix it with twice its bulk of water; this will produce an acid having a specific gravity of about 1350, and the mixture will acquire a temperature of about 200° of Fahrenheit. Into this you are to stir, while it is still hot, the requisite quantity of sulphuret of barium; and I recommend you to use five grains of sulphuret for each fluid ounce of the crude oil of vitriol employed. Allow the mixture to stand for twenty-four hours, during which time all the solid impurities will have subsided, then pour off the supernatant liquor, and distil it in a capacious retort, using the precautions recommended by Ure and Lembert; that is, to distil it, with some fragments of glass or flint, in the retort, to cover the vessel with a hood or cone, in order that the vapour of the acid may not be cooled before it reaches the neck of the vessel; and lastly, to change the receiver when you have drawn off a little more than one half of the liquid; for, as I have already said, the first portion consists of water, sulphurous acid, nitric acid, and binoxide of nitrogen; and it is only after these have been removed that pure sulphuric acid begins to distil over.

Should the acid thus obtained be still contaminated with a small quantity of sulphurous acid—an impurity of some moment to you as medical jurists, you can very readily dispose of the perplexing agent by adding a few grains of pure nitrate of ammonia. You must take care, however, that you do not add too much of this oxydizing agent, or you will render the liquid unfit for employment in Marsh's apparatus.

FRAUDULENT USES OF SULPHURIC ACID.

Sulphuric acid and the sulphates are not uncommonly employed as sophisticating agents; for example, alum and sulphuric acid are used for the purpose of increasing the acidity of wines and vinegar; sulphuric acid is employed in the manufacture of a saccharine compound, which is used in the adulteration of cane sugar; and alum, plaster of Paris, and sulphate of copper are frequently resorted to for the purpose of whitening and increasing the sponginess of bad bread. All these adulterations are matters of very serious moment both to you and the public, and the discussion of them is, in my opinion, very properly suited to this course of lectures. I shall, therefore, direct your attention to them in a very pointed manner.

All the Vinegars of English commerce contain free sulphuric acid, inasmuch as the vinegar manufacturers are permitted by law to employ a certain portion, viz., the one-thousandth part by weight of oil of vitriol, for the purpose of checking the putrefaction to which the gluten of the liquid is subject; but, as Dr. Ure very properly remarks, "this is a miserable shift, or pretended necessity, in the present advanced state of organic chemistry. It offers, besides, an easy source of fraud, since neither the retailers nor consumers of the article are competent to distinguish how much of the sourness is derived from the mild fermented acid, and how much from the corrosive mineral. All the pickles in which our *bourgeoisie* so much delight are polluted by the same sophistication. Not long ago," continues Dr. Ure, "a sample of vinegar was submitted to me for examination, said to be that supplied by contract to the British Navy. I found it to contain little more than half the fair amount of *proof* vinegar, with much gluten, and a copious supplement of oil of vitriol." Here, also, is a sample of cheap vinegar, which I have just obtained from one of the retailers in this neighbourhood, and you will notice that it yields a copious precipitate with a soluble salt of baryta; it contains, in fact, as much as 0·65 per cent. of sulphuric acid, and a fluid ounce of it yields very nearly nine grains and a half of sulphate of baryta, in place of one grain and fourteen hundredths which are allowed by law.

On the Continent, also, manufacturers are accustomed to adulterate vinegar, and many varieties of low red wines, with alum or sulphuric acid; and the fraud has become so serious, that chemists have thought it necessary to inquire into the matter, in the hope of being able to point out a ready mode of detecting the imposition. To this end Orfila directs that the suspected liquid should be agitated with ether; and, after standing for a short time, the etherial solution is to be decanted and tested for free sulphuric acid. It does not appear, however, that this mode of proceeding is a very satisfactory one; for, as I have already informed you, upon the authority of Dr. Christison, ether will not remove sulphuric acid from an aqueous solution. Guibourt, in fact, has put this to the test of actual experiment in the case of one of the liquids in question, and he has drawn from Orfila an admission, that ether will only take up a trace of the poison. Lassaigne, also, states that, in an examination conducted by MM. Ossian Henri, Bayard, and himself it was not possible to separate, by the action of sulphuric ether, four or five-thousandths of sulphuric acid added to red wine, and, consequently, that this method of operating would not answer for the detection of the impurity.

In the London Pharmacopœa, it is directed that the quantity of sulphate of baryta precipitated from a fluid ounce of vinegar by the addition of a soluble salt of baryta should not exceed 1·14 grains. But this rule, however applicable it may be to the composition of malt vinegar, cannot be applied either to wines, or the vinegars obtained therefrom; for grape juice contains very variable proportions of alkaline and earthy sulphates,—salts which will be sure to vitiate the results of the inquiry. It is necessary, therefore, under these circumstances, to proceed in a different manner.

MM. Lassaigne, Ossian Henri, and Bayard, inform us that they have, after many failures, been enabled to decide on a re-action, which is so delicate, that it will discover the presence of a one thousandth and a half of free sulphuric acid in red wine. They say, that when a piece of paper which has been touched with pure wine is dried at a gentle heat, the spotted portion is unaltered; whereas, paper which has been moistened with wine, to which a very small quantity of sulphuric acid has been added, reddens, and becomes brittle and friable between the fingers, when slightly rubbed, before the white paper becomes at all coloured.

Pure wine, to which nothing has been added, leaves by spontaneous evaporation a violet blue spot; whereas, wine to which a very small quantity of sulphuric acid has been added, (two or three thousandths) gives by drying a rose-coloured spot.

On examining into the sensibility of this simple process, the authors found that they were enabled to detect, by its means, one thousandth of sulphuric acid in red wine.

The paper most proper for the experiment is common glazed paper, containing starch or fecula. This kind of paper is well known in commerce, and it is easy to discover it by the blue colour which it assumes when moistened with an aqueous solution of iodine.

Now, although this re-action is a very delicate one, yet I prefer to operate in the following manner. Take a given portion of the suspected fluid (wine or vinegar,) evaporate it in a water-bath until it acquires a syrupy consistency, then treat it with strong spirit of wine, filter it; and precipitate the sulphuric acid contained therein by means of chloride of barium and a little nitric acid. In the course of this operation the alcohol will take up the free sulphuric acid, and will leave the neutral sulphates untouched.

Another, but not equally successful mode of operating is the following. Take two equal portions of the suspected liquid. Precipitate the sulphuric acid contained in one of them, and weigh the product. Evaporate the other portion to dryness, ignite it, re-dissolve the residue in water, filter it, and precipitate as before. The weight of this product indicates the amount of combined sulphuric acid present, while the weight of the former represents the entire quantity of acid (free and combined) which existed in the liquid. Upon subtracting, therefore, the weight of the one from that of the other, we can easily determine how much sulphuric acid had been fraudulently added to the liquid.

Again: *Bread* is often adulterated with metallic and earthy sulphates for the purpose of making it look white and spongy. Upon the Continent, especially in the north of France and in Belgium, public attention has been long called to the fact, that bakers are accustomed to employ a solution of blue vitriol (sulphate of copper) for this purpose; and M. Kuhlmann, formerly Professor of Chemistry at Lille, has collected a great number of facts which bear upon this subject. They were published under the direction of the Central Council of Salubrity of the Department du Nord; and although I think it right to allude to them here, yet I shall postpone their consideration until we come to treat of the metal which constitutes the chief ingredient of the poison.

From Kuhlmann's researches it appears, that sulphate of copper exerts a very energetic and peculiar action on the fermentation of bread. He states, that the addition of one grain of this salt to three pounds of dough will cause it to rise to a much greater extent than it would otherwise do, and thereby make the bread look white and more vesicular.

Alum is known to operate upon dough in a similar manner; for "it keeps water and rises well," as bakers express it, and so enables them to set off a very inferior and otherwise unsaleable flour. In the "Encyclopædia Britannica," and in the Dictionaries published by Dr. Ure. I find the following statement:—

"In London, where the goodness of bread is estimated entirely by its whiteness, it is usual with those bakers who employ flour of an inferior quality, to add *as much* alum as common salt to the dough; or, in other words, the quantity of salt added is diminished one-half, and the deficiency supplied by an equal weight of alum. This improves the look of the bread very much, rendering it whiter and firmer." "Now," says Dr. Ure, "we may hence infer, that the full allowance here assigned of two and a quarter pounds of alum for every two pounds and a quarter of salt, will be adopted in converting a sack of flour into loaves. But as a sack of flour weighs 280 pounds, and furnishes, on an average, 80 quartern loaves, we have 2¼ pounds divided by 80,—that is, 197 grains as the quantity of alum present in a quartern loaf. And, as I need hardly tell you, it is a very serious thing for a gentleman or lady, of sedentary habits, or infirm constitution, to have the digestive process daily vitiated by damaged flour,

whitened with 197 grains of alum per quartern loaf. Acidity of stomach, indigestion, flatulence, headaches, palpitation, costiveness, and urinary calculus, may be the probable consequences of the habitual introduction of so much acidulous and acescent matter."

My own experience is quite confirmatory of another observation made by Dr. Ure, who says, "I have made many experiments on bread, and have found the proportion of alum very variable. Its quantity seems to be proportional to the badness of the flour; and hence, when the best flour is used, no alum need be introduced.

Plaster of Paris is another agent which is sometimes used for the sophistication of bad flour. I here show you a specimen of ship-biscuit, furnished by a cheap baker to a trading captain. It contains 5·5 per cent. of sulphate of lime, which has, doubtless, been introduced for the purpose of increasing the weight and improving the appearance of a bad article.

All these adulterations may be recognized by digesting the bread after it has become very stale, in distilled water, and testing the solution with nitric acid and baryta for sulphuric acid. Good bread scarcely affords a cloudiness with this re agent, and the precipitate so obtained is too small to be weighed. Again, the last-named adulteration may be discovered by igniting the bread and weighing the residue. Good flour or bread will not yield more than 2 per cent. of ash, the greater portion of which is soluble in about ten drops of water.

The last point to which I shall direct your attention before I leave this subject, is the fact, that cane sugars are frequently adulterated with a low kind of saccharine product, obtained by the action of dilute sulphuric acid on starch. This sugar, which is identical in composition with grape sugar, is recognized by its granular or powdery appearance. In fact, it does not possess a crystalline structure; and hence it is devoid of that sparkling character which is possessed by cane, maple, and beet-root sugars. I am not prepared to tell you that the substance in question is positively hurtful to the human body, but I am in a condition to say, that the purpose to which it is commonly applied is injurious to the fair dealer, and is a gross fraud upon the public. Several chemical reactions have, from time to time, been referred to as a means of distinguishing the presence of glucose in the sugars of commerce, but in my opinion there are but two of them which possess any practical value:—1st. It was noticed by Mr Moore, and his observation has been verified by Chevalier and others, that starch or granular sugar acquires a deep brown colour when it is boiled with liquor potassæ, a reaction which is not manifested by any other species of saccharine matter. To employ this test, therefore, you take about ten grains of the suspected sugar, and heat it in a drachm of liquor potassæ; if the liquid acquire a deep coffee brown colour, it indicates the presence of this adulterating agent.

The second re-action was first noticed by M. Trommer. It is dependent on the property which glucose or starch sugar has of reducing the hydrated oxide of copper; and, to make this re-action manifest, you proceed as follows:—Take about ten grains of the suspected sugar, and pour upon it a liquid consisting of six drops of a saturated solution of sulphate of copper, and ʒij. of liquor potassæ. Heat this mixture in a test tube; and, if granular or starch sugar be present, the solution will instantly acquire a bright orange colour at the point where the flame touches the tube; and gradually, as the heat is propagated through the liquor, the whole contents of the tube will change colour, and ultimately become of a deep brown red tint.

Starch sugar, a so, frequently contains a considerable portion of plaster of Paris, the residue of the materials employed in its manufacture; hence, if you digest such a sugar in strong alcohol, the saccharine matter will be taken up, and the sulphate of lime left behind in the form of a white powder.

By adopting one or other of these means you will have no difficulty in discovering the fraud in question.

In my next lecture I shall commence the subject of nitric acid.

ORIGINAL CONTRIBUTIONS.

OBSERVATIONS ON THE RECENT EPIDEMIC CHOLERA.

By GEO. ROSS, Esq.

[Late Medical Officer of the West London Union, Author of Lectures on the Asiatic Cholera, &c., "Medical Times."]

THE INFLUENCE OF LEVEL, VENTILATION, AND CONTAGION.

The largest number of cases of cholera during the recent visitation occurred in the low lying districts, and especially in the parishes on the banks of the river. In my lectures on the former epidemic, I demonstrated this fact in respect to that visitation, with, however, the qualification, that certain central districts exhibited as high a mortality as the water-side districts,—a result clearly owing to local insalubrities. I then showed the probability, that the statistics relating to the epidemic in Paris, published by M. Gendrin, who declared that the mortality in the respective districts from cholera, was in an exact ratio to their contiguity to the river, were incorrect, as they did not accord with our metropolitan experience. The Registrar-General acting for the Government, has done for this epidemic what I essayed to do for the last, and by pursuing a similar method, has arrived at similar conclusions. In all material points, the statistics published by the Registrar-General are corroborative of those antecedently published by me; and the conclusions I then formed may be considered as established.

Those courts, in my own neighbourhood, which were chiefly ravaged by the epidemic, were composed of badly constructed dwellings, and were insufficiently ventilated. Imperfect ventilation, more than any other cause, seemed to determine the activity of the disease. Black Horse court and Poppins' court, and the lower half of Farringdon street on the west side were particularly scourged. In that portion of Farringdon-street, consisting, at that time, of thirteen inhabited houses, sixteen deaths occurred, either immediately within the walls, or after removal, whilst only one death, so far as I know, happened on the eastern side of the street.

Now, these doomed houses in Farringdon-street are inhabited by respectable tradespeople, and are generally kept clean and wholesome, but they are unfortunately built back to back with Black Horse-alley, a very narrow and dirty court, which is again built back to back with Poppin's-court; consequently there is no thorough ventilation through the whole of this district.

After this locality Crown-court and Hanging Sword-alley were chiefly attacked, and these courts, also, are built back to back. There were several other courts and alleys of as humble and dirty a character, which nevertheless escaped the rigour of the epidemic,—chiefly, I apprehend, through enjoying a somewhat better ventilation.

The consideration of the diffusion of the epidemic in particular localities leads us forward to the subject of contagion as a means of propagating the disease. I doubt if this question admit of absolute proof one way or the other; and, although facts may be piled on facts, and argument succeed to argument, yet the means of forming the "experimentum crucis" may never be attained. The question will be settled rather by common consent as the result of general experience, and of the observation of the analogies of the disease with the phenomena of other admitted contagious diseases than by positive demonstration. The contagion of small pox was at first doubted or denied; it was then admitted as the result of experience, and subsequently it was demonstrated by the actual transference of the dis- [illegible] by inoculation. Now, with the exception of [illegible] 'oof of the contagion of [illegible] that can be adduced to prove the contagiousness of one disease that will not find its parallel in the history of the other; or, to take lower ground, the arguments employed to prove the communicability of measles, hooping-cough, or typhus fever, will equally apply to cholera; and either this is communicable, or they are not. Innumerable facts have already been cited by other writers to prove the communicability of cholera, and I have observed similar facts in my own practice; but these facts have been invariably met by the objection, that the person declared to have received the disease by contagion might have succumbed under the epidemic influence of the locality, and that there is no fact to prove that such was not the case. Granted: but does not this objection apply equally to measles or hooping-cough? What constitutes an epidemic influence? It is not necessary for our purpose to inquire into the origin of "first cases," because it is self-evident that a first case could not be derived by means of contagion; and there might be many such first cases having a sporadic origin. These prove nothing against the doctrine of contagion. We have to deal with cases in which the conditions necessary to contagion are present.

Given, then, the place and the patient, the question is, Was the disease acquired from the one or the other? In all other supposed contagious dis- [illegible] it is unhesitatingly referred to the patient; but in cholera it is assumed that the disease, migratory as it is known to be, must have visited the place as an epidemic, and that contagion is an impossibility. And this position is broadly asserted, even under circumstances where there are links of evidence tending to show that the disease was imported.

But if an epidemic influence must be assumed, then how many cases constitute the proof of it? Is one sufficient, or two, or three, or four? The Registrar-General informs us, that at Dunmow three deaths from Asiatic cholera had occurred. "A woman and her child, (6 years old,) came from West Ham, (where it was at that time very fatal,) on the evening of the 8th of September; about two hours after eating her supper, the child was attacked with severe and constant vomiting and purging; collapse took place the following morning, &c., and the child died on the evening of the 9th. The grandmother of the child, aged 62, was seized with diarrhœa, and, after three days' illness, applied for assistance, collapse having begun. She died on the morning of the 14th of September. The grandfather, aged 61, was attacked with severe vomiting and purging on the 20th; collapse ensued, and he died of consecutive fever. The mother and father of the child were also attacked, but recovered. "No other deaths," the Registrar reports, "from cholera have occurred as yet in this district." Are these cases all happening in one family a proof of an epidemic influence! If so, we must commence studying a new system of inductive inquiry.

To assume that the epidemic influence of the locality caused the disease and nothing else, is at least a *petitio principii*, and a very poor argument. Where is the proof? Nay, says the objector, but the possibility! Aye, the possibility.

Facts have been recorded to show, that nurses attending on cholera patients have, subsequently, suffered from the disease; that patients taken to distant localities have introduced the disease to the houses where they were domiciled; that the bed-clothes and body linen of cholera patients, carried away to be washed, have engendered the disease; but the objection has been pertinaciously offered, Who knows that the epidemic was not lurking in the neighbourhood before the arrival of the patient or the fomes? The facts are not conclusive, &c.

The argument of ignorance, as used against positive facts, ought not to be suffered to have much weight, for there can be no end of questioning if appeals to the unknown are to be arrayed against the known. In one house that I attended there were not less than seven deaths amongst the different families residing in it, whilst, in the next house, resembling it in every respect as regarded locality and sanitary condition, there was not one death. If such a circumstance had occurred in respect to scarlet fever or measles, we should have no difficulty in acknowledging the fact of communication by contagion. Although the case cited above was an extreme one, yet such was the rule; and, wherever one case of cholera occurred, I was very frequently

soon after called to another. Those persons nursing the sick were peculiarly liable to an attack.

I am not anxious to enumerate facts tending to prove the doctrine of contagion, because I must confess I could adduce no facts that even myself, in a sceptical mood, could not charge with suspicion, and because my chief object is, to exhibit the fallacy of the arguments that have been employed to refute it. A man is taken home from his work ill of cholera,—he dies; his wife, who nursed him, is also taken ill of the same disease, and, after her, two daughters who nursed her are stricken by the epidemic. It might be said, in explanation of these attacks, that the daughters inherited the idiosyncracy of the parents, but it cannot be assumed that the father and mother were equally predisposed by identity of temperament. Community of sanitary influences might be supposed to be a sufficient cause, or the epidemic atmospheric constitution; but this is, after all, an imposition on the judgment. Who has yet ascertained this special atmospheric poison? It is an assumption, and those who ridicule the doctrine of contagion have yet to prove that their own doctrines are exempt from error.

I have known a woman hired to nurse another, and commencing her duty in good health, eventually succumb to the disease. In this case the house was well ventilated, and she was supplied with every comfort. Very many instances, however, of the attendants on the sick taking the disease have occurred within my observation. In all these cases it may be objected that the disease was previously in the neighbourhood, and I admit it; but there are scores of well-authenticated cases of persons carrying the disease into unvisited neighbourhoods, and to all appearance communicating it to others. Such a case I have already referred to. Why should such evidence be cavalierly rejected in favour of a mere assumption?

Although I refrained from expressing an opinion upon the subject, in my lectures on the last epidemic, yet I had formed a strong conviction of the non-contagiousness of cholera, and it was only after many weeks' experience of the disease that I was led to change my opinion. I do not wish to contend about words, but, I am sure of this, that a person in attendance upon a patient labouring under cholera may receive the disease in consequence of such attendance, and through an influence exerted upon him by the morbid state of the patient. I do not presume to define this influence, or to settle whether it be by contact or inhalation,—whether by a gaseous poison acting upon the blood in the lungs, or by an effect otherwise produced. These are speculative questions awaiting facts for their solution, and I shall not touch them; but I have no doubt of the general truth of the communicability of cholera.

It is probable that cholera is contagious only in a diminished degree, as compared with the exanthemata, or even with typhus,—the contagiousness of which disease is a matter of dispute,—and that a free aeration of the apartment would very much abate the liability. I apprehend, that, with an ample supply of fresh air, the deleterious agent would be too much diluted to exert its maleficence on the animal economy, and thus the communicability of cholera can only be tested in a locality already acknowledged to be favourable to its development. If, however, cholera depend upon a specific poison, its communicability is highly probable.

In my own case, I was, in two or three instances, sensible of a poisonous influence having been exerted upon me whilst standing at the bedside of a patient, and was obliged to fly to the door to avoid the vomiting which threatened. I was generally affected with diarrhœa after such occurrences, and omitted to visit the severer cases for a few days. It is right to observe, that I had disordered bowels, nausea, &c., for six weeks during the prevalence of the epidemic, and was, therefore, more predisposed than usual to receive a malign influence. The gentlemen who assisted me, however, were sensible of [illegible] deleterious agency.

[illegible]lera is, apparently, propagated both by epidemic influence and by personal communication, though what share each cause may have in its diffusion it is not easy to determine.

HOSPITAL REPORTS.

ST. BARTHOLOMEW'S HOSPITAL.

It is proposed, in these Reports, to give an account of some of the more important cases which have been recently discharged from, or may be still under treatment in, the surgical wards of the hospital. Attention will, especially, be directed to the interesting operations which are usually performed on the Saturday; and these will, occasionally, be illustrated by drawings. The Reports will be made as brief as possible, consistently with the design in view, namely, to furnish a general summary of the surgical news of the week, rather than a heavy detail of cases.

NECROSIS OF THE WHOLE OF THE LOWER JAW,

IN CONSEQUENCE OF LONG CONTINUED EXPOSURE TO THE FUMES OF PHOSPHORUS ACID VAPOUR, IN THE MANUFACTURE OF LUCIFER MATCHES.

The following very interesting case has attracted considerable notice for several months, and is now about to leave the hospital:—

Thomas Beckingham, aged 22, was admitted into Darker ward, under the care of Mr. Stanley, in the latter part of last January. At that time he had well marked symptoms of necrosis of the left half of the lower jaw. There was great swelling of the soft parts on the left side of the face, with one or two fistulous holes through which the probe passed to dead bone. He gave the following history of himself:—About six years ago, being then in excellent health, he became a workman in a lucifer-match manufactory. His particular business was to mix the phosphorus with resin and chlorate of potash in a vessel placed over boiling water, during which process the phosphorus evolves copious fumes. After being employed in this occupation for about two years and a half, his health began to suffer. The first symptoms of indisposition were occasional attacks of griping pain in the abdomen, followed by diarrhœa. Such attacks, he says, are by no means of infrequent occurrence, in other men engaged in the same work. In the course of a few months, he began to suffer from toothache, and swelling of the gums on the left side of the lower jaw. He always suffered more when at his work, but felt relieved when he left the factory at night. The symptoms gradually increased in severity, till at length, scarcely ever free from pain, and in a sickly-looking, deplorable condition, he sought relief at the Hospital.

Soon after his admission into the Hospital (in January last), the teeth dropped out one after the other from the left half of the lower jaw, and, about the middle of the summer, this half had perished, and was sufficiently loose to be removed. Subsequently, the remaining half of the jaw became affected with necrosis, in a manner precisely similar to the other, and has been removed. Thus, the whole of this man's lower jaw (with the exception of one condyle which was absorbed), may be seen in the museum of the Hospital. Those who are curious enough to inspect it, may observe that the necrosed bone is partially covered by irregular masses of newly-formed osseous substance, in colour and texture not unlike pumice-stone.

Considering the loss of so large a portion of the bony framework of the face, it might naturally be imagined, that the countenance of the individual would be greatly altered. But this is so far from being the case, that, on mere superficial observation, one would hardly recognise anything unusual about it. How can this singular circumstance be accounted for? Certainly not by the formation of any new bone, but rather by the formation of a kind of ring of firm fibrous tissue, which occupies the place of the lower jaw, and serves to support the soft parts. This ring can be felt distinctly at the chin, and inside the mouth, and is, moreover, so hard and solid, that one would really suppose it were bone. At all events, it is a beautiful provision made to supply the loss of the old bone; for it not only preserves the contour of the face, but also serves as a fixed point for the action of the muscles concerned in mastication, deglutition, and in the movements of the tongue. Thus, the patient is enabled to open and shut his mouth, and to put out and retract his tongue as before. With regard to the mastication of his food, this, of course, is a matter of some difficulty, but, even in this respect, he manages tolerably well; so that, upon the whole, it may fairly be said, that our patient is not, even with the loss of the entire jaw, worse off than many an elderly person who has lost his teeth.

For the history of the case we are indebted to Mr. Thornton, one of Mr. Stanley's dressers.

Other cases of disease in the lower jaw, in individuals engaged in the manufacture of lucifer matches, have been, from time to time, in St. Bartholomew's Hospital. But they are much more prevalent in the London Hospital, in consequence of the number of lucifer-match manufactories in that neighbourhood. In the manufacture of these matches, it appears that a large quantity of phosphorous acid vapour is given off, especially in the drying rooms, and that persons employed in these rooms have been attacked with necrosis of portions of the lower or upper jaw. Mr. Stanley, who enters at length into this subject in his work on diseases of the bones, considers, that long exposure to the fumes of phosphorous acid gives rise to inflammation of the periosteum of the jaw, and thus produces the death of more or less of the bone. The first indication of the disease is toothache; subsequently the teeth drop out; then the affected portion of the jaw dies, producing abscess and fistulous passages in the soft parts, with extremely fetid discharge. Under such circumstances no reproduction of the bone ensues. When the disease has once set in, nothing can stop its progress. All that we can do is, to support the patient during the tedious and debilitating process of separation of the necrosed bone, and to remove it as soon as it is sufficiently loose. Fortunately, however, a discovery has lately been made, which may prevent, for the future, the occurrence of this formidable affection. Mr. Stanley mentioned this discovery to the students in the wards of the Hospital. It appears, that if plates or saucers, filled with turpentine, be placed in sufficient numbers in the drying rooms, the noxious vapour of the phosphorus will be taken up and dissolved by this fluid, so that the air of the rooms may be breathed with impunity.

In connexion with this subject, it may not be out of place to mention a somewhat analogous disease in the bones produced by arsenic. There is an excellent example of this in the museum of St. Bartholomew's Hospital. (First series, sub-series A., No. 156.) We may there see several bones from cows fed in meadows near Swansea, in the neighbourhood of which there are copper works. In melting the copper ore, fumes of arsenic are so copiously disengaged that no animal or vegetable can long live within the sphere of their influence. The animals become disabled from disease in their bones, which become enlarged, porous, and spongy, and covered by unhealthy osseous deposits. It is probable that, the arsenic, contaminating both the air and their food, excites inflammation of the periosteum and bones, of a character resembling that which occurs in the jaws of persons employed in making lucifer-matches.

NECROSIS OF AN OSSEOUS GROWTH PROJECTING INTO THE ANTRUM OF THE UPPER JAW.

For the report of the following remarkable case, which is still in Darker Ward, under the care of Mr. Stanley, we are indebted to Mr. Harry Thorold, one of the dressers:—

George Alworthy, aged 34, a well-built, healthy-looking man, was admitted into the Hospital, during the middle of last summer, on account of a disease of the right upper jaw. There was an obvious enlargement of the nasal portion of the bone, together with a conspicuous bulging of the front wall of the antrum; the arch of the hard palate on the corresponding side was depressed, and the respiration through the nostril of the affected side was completely impeded. So far the disease looked like an enlargement of the antrum, by the projection of

some morbid growth into its cavity. It was probable, however, that more or less of the alveolar portion of the bone had perished, because the second incisor, the canine, and both bicuspid teeth were loose, the corresponding gums pulpy and swollen, and presenting two or three suppurating openings, through which the probe passed down to bare bone. The man stated, that his disease commenced about three years ago, when he first noticed a hard prominence by the side of the nose, for which he could not in any way account. For a long period this bulging did not increase, nor occasion any pain or uneasiness. But, about May last, he observed that his face began to swell, and this was soon followed by painful swelling of the gums, which induced him to apply for relief at the Hospital.

Such being the symptoms, the question arose, whether the case were one of simple necrosis of a portion of the upper jaw, with an enlargement of its nasal process, or whether this enlargement were but part of a general osseous growth, with a supervening necrosis of the alveolar border of the jaw. Under this doubt it was agreed to defer any operative proceeding. Our patient had been in the Hospital about two months, when a large abscess formed in the cheek just below the orbit, and, when this was opened, a quantity of fetid pus was evacuated, and a considerable portion of the jaw was felt bare and crumbling. Soon after this occurrence, it became evident that the dead bone was moveable, and Mr. Stanley decided on removing it. Without much difficulty the bone was removed with the forceps, and with it, to the surprise of all present, there came away a ball of necrosed bone which filled the antrum. When this bony mass was removed, there remained a large cavity, communicating widely with the nose and the mouth, with its walls covered by granulations. The growth itself consisted of a mass of firm and finely cancellous bone, of nearly spherical form, and about one inch in diameter. The case is now proceeding very favourably; granulations are rapidly filling the cavity, and the patient will soon be in a condition to leave the Hospital.

The case, therefore, has proved to be one of rather rare occurrence, namely, the spontaneous separation of an osseous growth from its surrounding connexions. Baron Boyer makes mention of two instances of the kind. (a) Another case has been recorded by Mr. Hilton, in which a large ivory exostosis separated spontaneously from the bones of the face. (b)

RESTORATION OF THE LOWER LIP AFTER THE EXTIRPATION OF AN EXTENSIVE LIP CANCER.

This operation has recently been performed by Mr. Skey with success, and in a manner which is rather novel. The patient, a man beyond the middle period of life, had allowed a cancerous ulcer of the lip to extend so far, that it had involved nearly the whole of the lower lip down to the chin. Besides this, there was a small indurated knot in the right cheek, and a small glandular enlargement a little below the angle of the jaw. These were both of them removed. The cancerous ulceration was then carefully extirpated by two semicircular incisions, commencing at the corners of the mouth and meeting at the chin. A portion of skin, of suitable form and size, was then dissected from the front of the neck, immediately below the jaw, and then raised up so as to fit into the place of the removed lip. The vitality of this flap of skin was maintained by two bridle-like slips of integument, cut obliquely, one on either side, out of the lower part of the cheek. These slips not only supplied the flap of skin with blood, but also permitted it to be raised into its new position with greater facility. The parts were then properly brought together by sutures. Everything has proceeded favourably. The wounds have united by the first intention, and the patient has just left the Hospital, quite satisfied with the result of the operation.

(a) Traité des Maladies Chirurgicales, Tome III. p. 554.

(b) Guy's Hospital Reports, Sept., 1836.

The restoration of the lip after the removal of a labial cancer, has been repeatedly performed by Dieffenbach. (a) But his operation consisted in bringing together the edges of the wound, after having loosened the skin on either side from the ramus of the jaw. He was also in the habit of using needles instead of sutures.

IMPORTANT VARIETY IN THE COURSE OF THE INTERNAL PUDIC ARTERIES.

In demonstrating the anatomy of the perineum in an adult male subject, Mr. Coote met with the following very important variety in the course of the internal pudic on both sides. After re-entering the pelvis through the lesser ischiatic knotch, the artery, instead of ascending, as usual, behind the ramus of the ischium and the pubes, passed on by the side of the rectum towards the so-called triangular ligament, and then gave off its three terminal branches, namely, one to the bulb of the urethra, another to the crus penis, and lastly, the dorsal artery of the penis. Had lithotomy been performed upon this subject, the pudic artery would have been unavoidably divided; and it might possibly have been cut through in laying open a fistula in ano. During the course of the last winter a similar variety in the course of this artery was observed. Though it is comparatively a rare occurrence to meet with such variety in the course of the main artery, yet is it by no means uncommon to find that one of its chief branches, namely, the artery of the bulb, arises lower down, (that is, nearer to the anus,) than usual, and then runs transversely across the perineum to the bulb; consequently, it is directly in the way of the incision in lithotomy. There is a preparation in the Museum which displays this point remarkably well. In the body already alluded to, several other unimportant anatomical varieties were also observed. Perhaps the most curious was the absence of both subclavius muscles.

In our report of next week, we propose to give the particulars of a case of compound dislocation of the ankle, and also a case of compound fracture of the leg, both of which cases have required amputation. An account, illustrated by a diagram, will also be given of an operation performed on Saturday by Mr. Lloyd, for the restoration of a lower eyelid, partially destroyed by ulceration.

KING'S COLLEGE HOSPITAL.

Reported by DUNCAN FERGUSON, Esq., late Physicians' Assistant King's College Hospital.

SYPHILITIC PSORIASIS AND CORYZA.

1.—Frances Kelly, aged 5 months, was brought as an out-patient under Dr. A. Farre, July 27. The child was born at full time; was of the usual size; had no cutaneous eruption; took the breast well; was troubled with what the mother called "the snuffles."

Father's age is 25, a healthy-looking man, has had syphilis before and after marriage. Mother's age is 25, healthy; nutrition good; has not any sore on genitals, but, at present, has sore throat; married eighteen months.

At present, the child is smaller than usual at five months and has lost flesh lately. The snivelling is severe; the nose is tender when touched, and the bridge concave; the Schneiderian membrane is inflamed, and secretes a muco purulent discharge, which concretes and occludes the nostrils. Patches of psoriasis are seen on the chin, cheeks, eyelids (which are deprived of hair), neck, chest, and arms. They are very plentiful around the anus, pudendum, and nates.

Tongue coated, bowels relaxed, restless at night, skin hot and dry.

℞ Hydrarg. cum cretâ gr. j., pulv. cinnam. co. gr. ij., o. n. s.

℞ Ung. hyd. ammon. chl., bis die appl.

℞ Lot. plumbi, sæpe utend.

℞ Mist. ammon. cit. ℥ij.; vin. ant. pot. tart. ʒj.; M. Capt. ʒj.; 4tâ horâ.

(a) Chir. Erfahr. über die Wiederherstellung Zerstorter Theilé. Berlin, 1834.

August 1.—The child has much improved; the eruption is much less; appetite good; coryza continues.

Sept. 7.—Convalescent. (Omitti mist. and ung. Rep. pulv.)

2.—William Goddard, aged 11 weeks, was brought to Dr. A. Farre; is a first child born at full time.

Father's age is 26; has not had syphilis since marriage, which took place eighteen months ago; health good. Mother has never had syphilis; nutrition good.

When the child was born he had an eruption on the skin which soon disappeared. At present, the face is almost covered with patches of psoriasis; they are also seen on the trunk and extremities, around the anus and over the scrotum. The angles of the mouth and nose are fissured. Has had coryza since three weeks old, and the discharge is now very profuse. Appetite very good, bowels regular, and, in other respects, pretty well.

The treatment, in this case, consisted in the exhibition of small doses of grey powder at night, white precipitate ointment over the patches, and lead lotion constantly applied over the nose, and now and then injected up the nostrils.

Sept. 21.—The child is much better. The psoriasis is disappearing; the fissures have healed.

Oct. 15.—Convalescent.

3.—George Wasmith, aged 4 months, was brought to Dr. A. Farre, July 1. Father is a healthy-looking man; had syphilis before marriage. Mother is a delicate, anæmic-looking woman; has not had syphilis. She has had five miscarriages early in gestation, and one child besides the patient, who is 9 years old, and has always had good health; married twelve years.

The patient was born at full time, and was thought to be a fine healthy child. At present he is much wasted, and has a sickly, blanched appearance.

The body is covered with psoriasis, and he is much troubled with coryza. There is thickening of the periosteum of the bones of the left forearm.

The same remedies were adopted; the child, however, was under treatment for two or three months, when he was discharged cured.

4.—Edward Cutforth, aged nine weeks, was brought to Dr. A. Farre, July 18; mother's age is 24; has been married two years; enjoys good health; never had syphilis; has had two miscarriages. Father's age is 26; had not had syphilis since his marriage.

The child is small for its age, is much troubled with snivelling, which commenced at birth, and has continued ever since. The mother describes the child as being "like a spotted leopard;" patches of psoriasis are extensively diffused over the body.

Sept. 30.—The child has perfectly recovered.

5.—Mary Ann Hickman, age nine weeks, was brought as an out patient under Dr. A. Farre, Oct. 3.

The mother's age is twenty, when pregnant three months with the present child, her husband gave her the venereal disease, for which she was under treatment six weeks; seems now in good health.

The child, when born, was in good health. At present it is delicate looking; has severe coryza, and the body is covered with psoriasis.

Treatment as in the former cases.

Nov. 4.—The child is now convalescent.

Remarks.—Cases like the above are very common in the out-patient room at the King's College Hospital, and are generally very amenable to the treatment adopted. Now and then, however, in spite of all remedies, the child loses flesh, becomes more fretful, irritable, and frightfully emaciated; the bones of the nose become diseased, and ozæna is the consequence. The child, under these unfavourable circumstances, very soon dies.

The venereal poison seems, from the cases I have related, to affect the fœtus in utero, when either parent has a syphilitic taint. In most of the cases I have investigated I find the mothers are subject to continual miscarriages, no doubt from the diseased condition of the fœtus. It is remarkable how one child escapes, and all the others become more

or less affected. In the case of Wasmith, the wife had never any syphilitic symptoms, nor had the husband for twelve years, and still the poison tainted, during and after that time, all the offspring with a single exception.

The symptoms are very uniform. The child is born in apparently good health, with the exception of a slight cold, which, however, generally persists. This coryza may not appear for a few weeks, and is soon succeeded by a scaly eruption on different parts of the face, and around the anus and genitals. The lips and angles of the nose crack. The nose is tender to the touch, and always unusually concave. The mucous membrane is red and inflamed, and a copious discharge runs from it, which, if not constantly wiped off, blocks up the nostrils, and adds to the child's distress. Now and then there is purulent ophthalmia and cough. The child is generally restless and fretful, sleeps badly at night, unless dosed with Godfrey's cordial; loses flesh, becomes shrivelled and dies, unless some efficient treatment be adopted to stay the progress of the malady. In all such cases *mercury is the remedy.*

PROGRESS OF MEDICAL SCIENCE.

FRANCE.

(From our Paris Correspondent.)

In alluding to the opening of the Medical Session here I should have mentioned, that two of the Sessional Prizes were awarded to foreigners. Mr. Robert Hamilton, of Cork, obtained the prize of the "Ecole Pratique," and one of the Egyptian students carried off that of the School of Pharmacy. Nothing is more calculated to encourage scientific research or the acquirement of sound knowledge, than this liberality, which throws open the contest for honours to the whole world.

At the recent distribution of rewards connected with the National Exhibition, only two individuals, —and these but remotely connected with Medicine,—received the Cross of the Legion of Honour. They were the Messrs. Kestner and Lacroix, manufacturers of chemical products at Thann and Chauny. Charriere and Samson, the surgical instrument makers, were decorated, if I remember right, after the former exhibition, in 1844. It is astonishing what energy and perseverance are engendered by the hope of obtaining this scrap of red ribbon; yet, like all other good institutions, it is sadly abused. Our President, for example, bedecks himself with the blue sash of the grand-cross wherever he goes, though everybody knows that he got it while in swaddling clothes; and many a medical man here wears the distinction with anything but honour to himself, because it was obtained by intrigue, not won by merit. It was curious to observe how all these false colours disappeared after the Revolution of February.

The Academy of Medicine has been occupied for the last three meetings by an important discussion on engorgements and deviations of the uterus. All the principal members of the Academy took part in this interesting debate, an analysis of which I shall not fail to forward you as soon as it shall be completed.

From the Institute we have little worthy of notice, except a report from M. Pagen on a new mode of preserving milk, which appears to be completely successful. The mode is simple enough, and consists merely in evaporating down the milk to a certain degree of consistency. It is indispensable to operate on milk of the best quality, and the quantity operated on should, as nearly as possible, be drawn at the same time, in order to avoid the changes produced by the atmosphere. From 75 to 80 scruples of sugar is mixed with each quart of milk, and the fluid then evaporated in very flat pans by means of steam, which circulates in a [illegible] envelope. The milk is never raised above [illegible]ng point, and the evaporation is aided by [illegible] of the mass. When reduced to two-[illegible]ths of its original bulk, the mass is placed in tin [illegible]s, which are hermetically sealed. M. Pagen and [illegible] Commission have tried this preserved milk in a variety of ways, and found that it answers the object perfectly. When diluted with a certain quantity of water, it is difficult to distinguish it from common milk.

ARTERIAL VARIX OF THE HEAD.

M. Maissonneuve related an interesting case of this kind at a recent meeting of the Surgical Society. A young female had received a blow on the right temple, which was followed, in about fifteen days, by a small tumour simulating aneurism. Compression was first tried, but failed. The tumour continued to increase, whereon M. Maissonneuve proceeded to take up the external carotid artery. This operation failed likewise. The internal carotid was next tied, and then the common carotid, in consequence of persistence of the hæmorrhage. This latter operation was immediately followed by hemiplegia of the left side of the face, which soon became complete, and terminated in death. On examining the body, a considerable portion of the right hemisphere of the brain was found softened, almost gangrenous.

The result of this case would appear to confirm the opinion of many surgeons that ligature of the primary carotid exercises no influence on varicose aneurism of the branches. But M. Robert called the attention of the Society to a case which demonstrated the contrary. It was the well-known case of a man on whom Dupuytren operated in 1819 for an erectile tumour behind the ear. Dupuytren took up the primary carotid and announced the patient as cured; but this was not quite true. The man was relieved, not cured. M. Robert saw him in 1829, and a short time ago also. He had had secondary hæmorrhage only three times since the operation, and the tumour appeared to be stationary. In 1846 an analogous case, followed by similar results, presented itself in the practice of M. Robert. Ligature of the carotid artery, not only suspended the hæmorrhage, but arrested the growth of the tumour. M. Robert therefore expressed his opinion, that extirpation of the tumour, as practised by many foreign surgeons, should be rejected.

It may be observed here, that M. Robert appears to have confounded together aneurismal varix and erectile tumour of the scalp, two diseases which may reasonably be distinguished from one another. The erectile tumour may be cured by ligature of the carotid; it has been cured by vaccination and many other modes of treatment; but it admits of doubt whether aneurismal varix can be cured by any other treatment than ablation of the tumour. This is the opinion of Mayo, Johnson, and many other surgeons of eminence. Besides ligature of the primary carotid is not so grave an operation as one might conclude anatomically. Norris has collected 140 cases, of which only 48 proved fatal. On the other hand, of 31 cases in which the primary carotid was tied for erectile tumour, 18 were cured, 8 ended fatally, and 5 were partially cured.

TREATMENT OF CROUP.

A new mode of treating this formidable disease —new at least in France—has been proposed by M. Miguel, and, it is said, tried with much success at the children's hospital, by MM. Trousseau, Blache, and Guersant. The treatment consists in administering large doses of calomel alternately with alum. M. Miguel gives every two hours and alternately 2 grains of calomel and 2 grains of alum. He thus produces rapidly mercurial stomatitis, which, it is said, appears to act as a powerful derivative on the original inflammation. The quantities of calomel and alum are varied according to the nature of the case, age, of the patient, &c., and in all the diphtheritic inflammation was remarkably modified. Thus, in one case, where the child appeared on the point of suffocation, and tracheotomy was about to be performed, M. Guersant administered 24 grains of calomel, and the same quantity of alum within the twelve hours. At this period the child appeared much relieved; salivation set in on the second day, and the child is now well. The only inconvenience of the treatment is that arising from rapid salivation. This is occasionally severe; but in so destructive a complaint as croup extreme remedies must be resorted to.

CURE OF CANCER.

Some curious experiments are now going on here under the superintendence of the Medical Society, and relative to Dr. Tanchou, who for many years has professed to cure cancer and several other intractable diseases.

On the 8th of March last Dr. Tanchou presented two patients to the Society, and requested the members to examine them. They did so, but strange to say, no two members could agree as to the real nature of the disease; nor would Dr. Tanchou, himself, undertake to pronounce a diagnosis. He merely affirmed, that they were cases of a "mauvaise nature." However this may be, the Doctor proceeded to treat the patients after his own fashion, and again presented them to the Society on the 5th ult. One of the patients had an open sore on the skin, which some said, was cancer, others lupus. The second patient laboured beyond all doubt under open cancer of the mammæ, and was, moreover, in a very bad state of health. Dr. Tanchou brought back the first patient cured. As to the second one, the ulcer of the breast was nearly healed; the cancerous diathesis had disappeared, and the patient had become fat. These were incontestible facts, and it may be worth while to relate how such results were obtained, although the worthy practitioner's treatment smells strongly of the charlatan. The treatment of the lupus patient lasted three months and a-half. It consisted in a substantial diet and frequent exercise in the open air. These were aided by a great variety of remedial means; first, tincture of iodine, then Fowler's solution, and then arsenic and iodine alternately. The sore was occasionally washed with tar-water, tincture of iodine, decoction of poppies, &c., and finally cauterized with nitrate of silver, creasote, and iodine. The cicatrix is now sound and healthy-looking.

The treatment of the second case was conducted on the same principles, but only gave rise to considerable amelioration. Even this, however, may be regarded as a progress, insomuch as the majority of the members of the Society had pronounced both cases absolutely incurable when first submitted to them.

ANOMALY OF THE CERVICAL VERTEBRÆ.

M. Dubreil, Professor of Anatomy at the University of Montpellier, relates a very rare case of anomaly of the cervical vertebræ. It consists in the existence of a supernumerary vertebra, and occurred in the person of a Swiss drum major, whom M. Dubreil had often remarked during his life time, on account of his extraordinary stature. A careful examination of the skeleton leads the author to conclude, that the anomaly consists in a duplication of the sixth vertebra of the neck. M. Geoffroy St. Hilaire never observed a case of this kind, and it appears the only one to be found in the annals of Medicine. I remember, however, when a student at Edinburgh, that a well known member of the Medical Society, remarkable for his height, was said to possess a similar deformity.

GERMANY.

[From our own Correspondent.]

GERMAN MEDICAL JOURNALS.

The convulsions which the length and breadth of Germany have lately undergone seem to have affected the progress of medical science much less than they have the political rights and relations of its professors. The four-and-twenty German Universities are in full operation, and redolent with spirit and with life; and if revolutions have not added to the stores of medical science, they have certainly not lessened the love of its students, or impeded the progress of its cultivation. After all that has been written about the stagnation of literature, and the impediments which the troubles of the times have thrown in its way, your readers will scarcely believe that Germany has still sixty principal medical periodicals, which fill a yearly mass of 3500 sheets—56,000 pages! The annual subscription to which amounts to 250 thalers, or about 37*l.* 10*s.* English.

Almost every branch of medical science has several publications devoted to its interests; but, strange to say, there is no journal that devotes itself exclusively to any of the large German Universities or Hospitals. The "Charité" at Berlin attempted to establish an organ of its own, but the idea met with little encouragement, and was abandoned.

CHOLERA COMMISSIONS.

The Bavarian Government has lately established a Commission, consisting of physicians and chemists, to inquire into the nature of cholera, and particularly as regards its connexion with atmospheric and telluric influences, electricity, magnetism, &c. Von Walther, the well-known Professor of Surgery in Munich, is the President.

ICHTHYOSIS CONGENITA.

We have a specimen of this rare disease at present in one of the Berlin Hospitals, in which no part of the body is free from the complaint, except the inguinal regions. The patient is a young child, who is otherwise in good health.

SYPHILIS AND MISRULE.

Syphilis and misrule would seem to advance together. Since the good-will and pleasure of the State decreed that brothels should be no longer licensed, and that the visitation and examination of prostitutes should cease in Berlin, syphilis has increased to a fearful extent. In 1845, when the laws regarding prostitutes were repealed, the number of patients treated for syphilis in "La Charité" amounted to 1135; in 1846, the numbers were 1310; in 1847, 1655; in 1848, 1814; and in the present year, it is said the returns will show an increase of 60 *per cent!*

SCOTLAND.

[From our Edinburgh Correspondent.]

Last week the winter session in the Edinburgh Medical School commenced. There is a good show of students. Edinburgh is again rising to the position it formerly held in medical education, the period of greatest depression being already past some years ago. For three or four sessions, notwithstanding that there have been seasons of almost unexampled pecuniary distress in the country, the number of matriculations in the medical department of the University has been progressively increasing. It is gratifying to think, that among the causes contributing to this return of prosperity, not the least is the present efficiency of the Medical Faculty of the University; and a like efficiency marks the extra-academical branch of the Medical School. In the University, to the names of Alison, Christison, Syme, Ballingall, and Trail, who represent the older part of the Medical Faculty, are now to be added those of Simpson, Miller, Gregory, Goodsir, Bennett, and Balfour. Since Mr. Goodsir's appointment, nearly for the first time in the memory of the present generation of medical men, the University of Edinburgh has enjoyed the benefit of an efficient Professor in the important department of Anatomy. And beyond all doubt it was the failure in Anatomy by the conjoined effect of the inactivity of the Professor, and the extreme scarcity of subjects, before the era of the Anatomy Act, that first diverted the current of medical students from Edinburgh. The facility of access to the Continental schools concurred with the decay of Anatomy in the University to bring down Edinburgh from the pre-eminence which it had so long enjoyed. Now, by a singular coincidence, these several causes of this decline have nearly at once become inoperative, for Mr. Goodsir is all that can be desired in a Professor, the supply of subjects is abundant, and the Continental schools are confessedly in a very unsettled state. As to the other departments of medicine, they never were on a more satisfactory footing. The Extra-academical School, too, is making vigorous efforts to maintain an honourable rivalry with the University. The new apartments close to the College of Surgeons, in Nicolson-street, for the accommodation of the chief part of this School, were opened last week. The arrangements in every part of the house are excellent. An able opening lecture was delivered by Dr. Alexander Wood to a crowded auditory. In this the example of the Principal in the University was followed, who now gives an annual lecture to the students at large on the first day of the session.

Besides the bustle consequent on the opening of the medical courses, other causes of excitement were in operation last week among our Professional brethren. Of these two deserve to be noticed, namely, an entertainment given by the College of Surgeons, and a proposal made by the Medical Faculty of the University to the managers of the Infirmary, to put the Clinical courses on an entirely new footing. The entertainment given by the College of Surgeons was on the occasion of Mr. Syme's election to the President's chair. It must be very gratifying to Mr. Syme, so soon after his return to Edinburgh, that the choice of him for the chair was unanimous. The entertainment was happily managed. It was in the evening, and took place in the hall of the College. It was numerously attended by the Fellows of the College; and among the guests were the Medical Professors of the University, many Fellows of the College of Physicians, and Medical officers of the public service on duty in the Castle and at Piershill. Mr. Syme made an excellent Chairman, and every one departed well pleased with the convivial amusements of the evening, and the sentiments expressed in the short speeches with which the toasts were prefaced and responded to.

The proposal for an alteration in the University clinical department of the Royal Infirmary has not yet been made public; but the snatches of it which have transpired have created no small excitement among certain parties whose interests are likely to be more or less affected, if some parts of the alleged proposal be carried into effect. As far as can be judged at present, the plan proposed by the Medical Faculty is not objectionable in itself, having for its effect simply to give greater facilities to the Professors of the University for clinical teaching. The objections arise out of its expected interference with other interests than those of the Infirmary itself. It may be regarded as a plan alternative with another project of the same body formerly announced in the *Medical Times* as in contemplation, namely, the establishment of a separate Faculty or University Hospital. This project, we may presume, they abandon, if their new proposal is acceded to by the managers. They are said, then, to ask in the first place, that 150 beds be placed at their disposal for clinical teaching in the two departments of medicine and surgery. This demand can create little difficulty, as the Clinical Professors can already command, by the present arrangements, within a small fraction of that number. Next, they ask that a ward should be set apart for uterine diseases, under the charge of the Professor of Midwifery, and a male ward for skin diseases. To the demand for these two wards no material objection can arise. Again, they ask for a resident clinical clerk, or superintendent of the clinical wards. This, we understand, has been already granted. Another demand is for the choice of patients out of the waiting-rooms, on four days out of the seven days of each week. As to this demand probably little difficulty will arise, since this extension of choice does not exceed one day more in the fortnight than the Clinical Professors are entitled to at present. Another demand is for an out-door relief of patients, to be taken charge of by the Clinical Professors alternately, with the ordinary Physicians of the house. Such an arrangement would probably extend the means of clinical instruction, both in the University and in the extra Academical School. With the exception of some minor points, these are understood to be all the demands applicable to the purely medical department of the Infirmary. In the surgical department at present the Professor of Clinical Surgery has about sixty beds, and the Professor of Systematic Surgery, as one of the acting surgeons of the Infirmary, has about twenty beds. The new scheme seeks, after a time, to diminish the number of beds held by the Professor of Clinical Surgery, and to give twenty beds permanently to the Professor of Systematic Surgery, after his period of service as an acting surgeon has expired; it moreover asks two small wards for male and female syphilitic patients; also a few beds for eye diseases, to be placed under the charge of the Professor of Anatomy. Nothing can seem less objectionable than these demands, there being but a few beds asked for the University Clinical School beyond what it is at present entitled to. But as Edinburgh has but one great hospital, there is but one field in which, in particular, surgical operators can acquire the confidence of the public. At present no more than four years' active duty is allowed to any one in the surgical wards of the Infirmary, with the single exception of the Professor of Clinical Surgery, who alone is a life surgeon of the Institution. But the arrangement proposed makes two additional life-surgeons, namely, the Professor of Systematic Surgery and the Professor of Anatomy. This the Fellows of the College of Surgeons are inclined to regard as equivalent to establishing a monopoly of the pure surgical practice in these Professors of the University. Hence, no doubt much opposition will be offered to the new scheme, unless some plan can be fallen on by which this objection can be neutralised.

The only kind of compromise that seems available to reconcile the contending interests in this case, is to hold out some sort of compensation to those Fellows of the College of Surgeons, who, by their special turn for surgery, feel themselves entitled to look forward to acquiring the confidence of the public of Edinburgh in pure surgery and as surgical operators. For example, the College of Surgeons might be allowed the privilege of recommending to the Managers a Fellow of their body, to be appointed senior acting surgeon for some such period as ten years, stipulation being made that the candidate should be of a proper age, say between thirty-five and forty-five, and that he had served previously as acting surgeon in the Infirmary for the period of four years, as fixed at present; and there might be a like arrangement for the recommendation of an ophthalmic surgeon, under appropriate regulations for a similar term of years. These should be extra appointments, so that there might still remain two acting surgeons and two assisting surgeons, under the same regulations as exist at present. All that is required for the working of such a double scheme as is here supposed, is a small increase of surgical patients, and that may be looked forward to in the natural progress of things. One thing, the Managers of the Infirmary must take care to secure, in the event of the University scheme, or any part of it being carried into effect, namely, that such a control be left in their hands, as may enforce the efficient performance of the hospital duties undertaken by the Professors. For it must not be assumed, that the same energetic activity by which the University is distinguished at present, will remain unabated in all time to come.

SELECTIONS FROM FOREIGN JOURNALS.

CHOLERA IN THE HORSE.

A communication has been addressed to the editor of *L'Union Médicale*, on Cholera in Horses, by M. Liegey, of Rambervilliers. It is stated, that both cholera and the epidemic cerebro-spinal meningitis have attacked many horses. One case is described, but not very fully; the symptoms of the developed malady are said to have been, suppression of the urine, borborygmi, flux, rapid emaciation, extreme tenderness in the region of the lumbar vertebræ, and trembling of the limbs.—(*L'Union Med.* Oct. 27.)

CHOLERA IN THE CHIMPANZEE.

La Presse Médicale (Bruxelles) states, that in August, while the cholera was prevailing at Antwerp, a magnificent Chimpanzee, which is in the Zoological Gardens of that city, was attacked with cholera. It had cramps, vomiting, rice-water stools, general coldness of the body, and an extremely feeble pulse. It was treated with laudanum and sinapisms, and was cured in three days.—(*La Presse Médicale*, Nov. 11.)

SUGAR IN CHOLERA PERSPIRATION.

In four cholera patients the viscous sweat, collected with care from the forehead, the cheeks, arms, and fore-arms, was found by M. Doyère to contain a substance which decomposed the salts of copper in the same way as sugar. M. Doyère hesitates to decide that this substance is sugar, without more certain evidence. The sweat which was not thus thick and viscid, the serum of the blood, the urine, and the stools gave no trace of sugar. The matter vomited by a patient who had taken only Seltzer water gave a considerable precipitate of the red oxide of copper.—(*Archives Générales*, Sept., p. 108.)

THE FRENCH AT ROME.

The *Gazette Médicale* gives an account of the medical state of the French in Rome. Marsh and typhoid fevers (Dothinenterite) are prevailing together with great intensity; and so far from the doctrine of the antagonism of these diseases being true, it seems absolutely overthrown by the manner they are now raging together. Dysentery is uncommon. Phthisis pulmonalis at present seems to be unfrequent, so that the hypothesis of an antagonism between it and marsh fevers has not at present been tested.—*Gazette Medicale*, Oct. 27.) The French surgeons are strongly reminded of the diseases of Algeria.

IMPAIRMENT OF THE SIGHT IN BRIGHT'S DISEASE.

Since the statement of M. Landouzy, that there is impairment of vision, or complete amaurosis in granular disease of the kidneys, M. Levy has minutely investigated three cases. Two of these had no alteration of sight; the third had a slight impairment.—(*Gaz. Med* Oct. 27.)

The following were M. Landouzy's conclusions at the end of his paper read before the Academy:—

1. Dimness of sight is an almost constant symptom of albuminous nephritis.
2. It is an initial symptom preceding all others.
3. It disappears and returns at the same time as the albuminous deposit in the urine.
4. That the ganglionic system of nerves is particularly affected.

M. Forget, of Strasbourg, has published three cases of Albuminuria, in some measure confirmatory of M. Landouzy's observation of the frequent occurrence of amaurosis. In the first case, the anasarca was very considerable; the albumen in the urine in large quantity, the amaurosis nearly complete. The amaurosis had preceded the dropsy, and had been ushered in by obstinate vomiting. In the second case, the feebleness of vision came on gradually in the course of the malady, three months after the dropsy appeared. The urine was very albuminous. In the third case, the patient had suffered from cephalalgia for six years; the amaurosis followed a year after the commencement of the headache. A few months later acute pain in the loins came on, followed by acute superficial pains in the lower extremities. Dropsy and albuminous urine succeeded these symptoms. After death there was considerable hypertrophy of the heart, old pericarditis; the kidneys small, lobulated; the cortical substance deepened, not anæmiated; the pyramids diminished in size, but the kidneys were not, apparently, granular. The head was not examined. The Author thinks that the cephalalgia, the amaurosis, and the darting supeficial pains, probably indicated a cerebro-spinal lesion. In regard of M. Landouzy's conclusions, M. Forget remarks, that where amaurosis exists, it is probably closely allied with the albuminuria, and is not simply a fortuitous and accidental coincident. But he does not admit that it is, as M. Landouzy asserts, almost a constant and an initial symptom. He also doubts whether it disappears and re-appears when the albuminuria temporarily ceases and returns,—for in one of his cases the amaurosis disappeared while the albuminuria continued to advance. He considers M. Landouzy's opinion, that albuminous nephritis results from an alteration of the ganglionic system of nerves, as a mere hypothesis.—*L'Union Méd.*, Nov. 1.

THE TRANSFORMATION OF SUGAR.

M. Bernard seems to have arrived at the conclusion, that cane sugar is transformed into glucose by the action of the gastric juice; but, if it be in too great a quantity to be so transformed, it passes into the vena portæ unchanged, and undergoes its transformation into glucose in the liver. The functions of the liver appear, in part at any rate, to consist of this formation of glucose or assimilable sugar.—*La Presse Médicale*, Oct. 21.

PRODUCTION OF CHOLERA.

M. Pellarin, of Givet, has forwarded to the Académie des Sciences numerous documents on the cholera at Givet, which, he considers, prove that the gases from necessaries and cesspools are the cause of cholera, and that the exhalations of the intestinal discharges are the ordinary agents by which the malady is transmitted.—*L'Union Méd.*, Nov. 1.

REMEDIES AGAINST DRUNKENNESS.

L'Union Médicale states, that the following severe laws against drunkenness have been recently enacted by the Swedish Government with a view of checking the spread of this vice. For the first conviction of drunkenness, a fine of 15 "rix dollars;" for the second, 30 rix dollars; for the third and fourth times, heavier fines, loss of right of voting and of being elected, and, on the following Sunday, public exposure in the pillory; for the fifth conviction, six months' imprisonment and hard labour in the house of correction; for the sixth, imprisonment for a year. A person convicted of making another drunk is fined 15 "rix dollars," or a double sum if the person made drunk be a minor. An ecclesiastic committing a fault of this kind loses his benefice; a layman holding an important post is suspended or dismissed. Drunkenness is never accepted as an excuse for acts committed under the influence of intoxication, and a man who dies drunk is not allowed to be buried in the common cemetery. —*L'Union Med.*, Oct. 30. (The Daily *Times* having copied this from a foreign journal, was informed by a Correspondent that it was incorrect.)

LIGATURE OF THE COMMON CAROTID FOR ERECTILE TUMOUR OF THE FACE OR HEAD

In a discussion in the Academie de Medicine, on this subject, M. Lenoir gave the following summary of the results of the operations which had been performed, viz., out of thirty-one cases in which the common carotid had been tied, there were eighteen cures, eight deaths, and five unsuccessful, but not fatal cases. M. Lenoir remarked on the necessity of making a correct diagnosis between true erectile tumour, and arterio-venous aneurism following injury. In this latter case, the ligature of the common carotid does no good, and the artery involved in the disease must be tied above and below its point of communication with the vein.—*L'Union Médicale*, November 3.

UTERINE DISEASES.

A long discussion has been carried on in the Academie, which presents to us conspicuously the well-known fact, that in the Paris school, where the non-organic diseases of the uterus have received so much attention, very great difference of opinion prevails as to their nature. There are scarcely two academicians who adopt the same view. The principal opinions which have been yet advanced are the following:—

Some Academicians, with M. Gibert, attribute the congestive uterine diseases to a general previous condition of the system, of which these uterine affections are but the expression. A treatment purely general is to be used in all cases. Velpeau and some other Academicians believe, that, putting aside carcinomatous, fungous, and fibrous alterations, the uterus presents few organic pathological alterations. They deny the engorgement of the body of the uterus, since it cannot be observed on *post-mortem* examination. They admit the engorgement of the neck only as an exception; but they say, that, when the neck is affected with vegetations and granulations, —these must be combated by a treatment purely local.

M. Malgaigne, on the contrary, believes engorgement of the neck to be very common.

MM. Roux, Morcau, and Jobert, (de Lamballe,) admit both the congestions of the body and the neck as usual maladies, and praise the application of the actual cautery in some of these cases.

M. Robert admits not only lesions of the uterine tissue, but has described new diseases of the uterine mucous membrane. The most important of the affections of the mucous membrane consists in granulations and little tumours, seated chiefly on the posterior face of the organ, and especially near the Fallopian tubes. These are simple hypertrophied portions of the mucous membrane, or new developments of areolar and fibro-plastic tissue. M. Robert gave no marks by which such a disease could be diagnosed.

The most important speech on the subject was made by M. Huguier, who has treated many uterine cases at the Hospital of Lourcine, and who believes that engorgements of the neck are, with sub-acute and chronic metritis, and uterine folliculitis, the most common diseases of the uterus in our large towns. He appears almost to have established incontestably the fact of the existence of engorgements of the body and neck of the uterus, and has preparations showing its existence after death. Out of 2527 cases, he collected 131 observations of engorgements of some part of the uterus. Of these, 8 were of the body and neck together; 13 of the body alone; 106 of the neck alone; and 4 were undetermined.

M. Huguier admits eight species of engorgements.

The discussion is still going on.—*Gazette Méd. et l'Union Méd.* for Oct. and Nov.; *La Presse Med.*, Oct.

TREATMENT OF CHOLERA.

M Baudrimont (Bordeaux) has recommended, in strong terms, the employment of the bicarbonate of soda in cholera. He explains its utility by presuming that it restores the fluidity of the blood, and acts as a true antidote.—*L'Union Méd.*, Oct. 23.

CHOLERA IN A NEW-BORN CHILD.

M. Homolle has reported an instance in which a woman in labour was attacked with cholera. An infant, apparently asphyxiated, was born, but, after proper remedies, was roused, passed meconium and urine, and appeared to be doing well. Twenty-four hours after its birth, there came on suddenly serous diarrhœa, vomiting, and all the gravest symptoms of cholera, and it died in a few hours. M. Homolle puts the question, whether it was infected with cholera in the womb or after birth. He inclines to the former opinion.—*L'Union Méd.*, Oct. 23.

THE BENEFITS OF CHOLERA.—The dreadful visitation which will soon have swept over the face of all Europe, has brought with it many a lesson, that, it is to be hoped, we shall not forget when the evil has passed away. In England it will accelerate the abolition of that abominable and disgraceful nuisance, interment in towns. On the Continent, it has demonstrated the necessity of instituting parochial medical relief, and measures have been taken already in some of the European states, for the supply of gratuitous advice and medicine to the poor. Thus, in Belgium, for example, the Government proposes to create a class of "district physicians," analogous to our Poor-law medical officers, who are to receive salaries varying from 600 to 1,000 francs, or from 24*l.* to 40*l.* per annum. Even Turkey, as we lately reported, does not remain behind hand. The Ottoman Government has recently published a decree for the appointment of physicians to be paid by the State. They are bound to treat gratuitously all—both rich and poor—who shall demand advice; but, if the medical man show any preference to the rich, he will be punished severely. The State physicians are also bound to send in quarterly Reports of the number of sick treated by them; of the prevalent diseases; of deaths and of the meteorological phenomena observed during the quarter. Finally, the decree contains popular directions relative to the conduct to be pursued during epidemics, and "regulations for the inhumation of all bodies *outside* the towns."

It is said that the celebrated anatomist and physiologist, Tiedmann, of Heidelburg, has retired from public life, from grief caused by the military execution of his son, Commandant of the fortress of Radstadt, in the late revolution.

Complaints having reached us of the irregular delivery of the MEDICAL TIMES *in the country by the Booksellers and Newsmen, we state, for the information of our readers, that this Journal is always published early on Friday afternoon, so that it may reach the Provinces by post on Saturday morning.*

Correspondents are requested to address their Communications to "The Editor of the MEDICAL TIMES, *147, Strand."*

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THE MEDICAL TIMES.

SATURDAY, NOVEMBER 17, 1849.

DURING the last six months a wide-spread and fatal epidemic has devastated two neighbouring and powerful countries, inhabited by races which, from time immemorial, dispute the palm of civilization. Cholera has counted its victims by hundreds of thousands. They have exceeded, within that brief period, the numbers of slain in the most bloody wars; and as, during homicidal contests, the leaders often suffer most severely, so have the "officers of health" been cut off by their implacable enemy in frightful proportion.

In England, as well as in France, the members of the Medical Profession have nobly performed their duty under the most trying circumstances; they have given proofs of courage, devotion, scientific skill, patient endurance, charity, brotherly love, — in a word, of all those high qualities which most ennoble humanity. Despising danger, they hastened to combat the enemy wherever he appeared. Man after man fell; but the ranks of the survivors "closed up," with undaunted hearts, though diminished numbers. Every thing that science could suggest, experience could promise, or devoted energy supply, was freely offered in the service of suffering humanity. And all this, in a vast majority of cases, with slight prospect of either fee or reward.

The war—to continue our metaphor—is now at an end on both sides the Channel. The battle has been won; or to speak more correctly, the enemy has retired from the field, wearied with carnage. Cholera no longer exists in London or in Paris; and the interests of civilization, to say nothing of justice and gratitude, demand that the survivors of those who conducted themselves so valiantly during the contest, should reap some reward for their labours.

How far public opinion in England may induce our authorities to abandon the barbarous traditions of the Middle Ages, and consider civil services as no less worthy of honour and reward than military achievements, we cannot pretend to say. Such a reform has long been demanded by every enlightened man in the Empire; but custom, routine, and our aristocratic habits oppose it. We shall, therefore, in all probability, continue to walk in this instance in the narrow path that once led to all manner of abuses; but, in the meantime, it is some consolation to know, "that they order these things better in France." There, at least, a popular Government appears to entertain a just sense of the duties which civilisation imposes on it; and there have the members of the Medical Profession already received a small portion of the rewards to which their conduct, during the prevalence of epidemic cholera, so justly entitled them. May the example produce some effect on this side the Channel, if not from a generous motive, through very shame.

The official journal of the French Republic, for Saturday last, contains a long Report from the Minister of Commerce to the President, on the services rendered by the Parisian Practitioners during the cholera epidemic. These services are publicly acknowledged by the Minister in the most handsome terms; and he proposed, by way of recompense, a series of nominations in the Order of the Legion of Honour, which the President immediately countersigned. M. Rostan, the well-known author of a treatise on Clinical Medicine, and M. Merlier, are named officers of the Order. Mr. Stewart Cooper, a laureate of the Faculty, receives the Cross of Knight. In addition to these special appointments, the Cross has been bestowed on one Medical man from each of the twelve arrondissements or parishes of Paris, and on M. Bazet, an apothecary, whose extraordinary exertions have merited this high distinction. And this is not all. A Cholera Medal has been struck for the occasion, and distributed to 600 persons, more or less connected with the Medical Profession. Among those whom the Minister cites *nominatim* in his Report, are Rosalie Render, Sister of Charity at the Hotel Dieu, Madame Mollet and Madame de Vernon; the worthy Curate Hucqueville, and many others. All the Sisters of Charity, in fact, have received the Medal, and all the Students whose particular services entitled them to distinction amongst the crowd of their fellow-labourers.

The Military Surgeons, likewise, obtain their share of reward, but with a more sparing hand, as if this class, in common with our Naval brethren, were always to experience injustice. M. Boudin, of the Military Hospital la Roule, and M. Worms, of Gros Caillon, are appointed Officers of the Legion of Honour; and six Military Surgeons, with two Apothecaries, obtain the Cross of Knights.

Never were honorary distinctions more justly merited. And again we ask, How long shall we have to exclaim, with Sterne, "They order these matters better in France"?

SANITARY CONDITION OF BETHNAL GREEN.

WE have lately read a Work by Dr. Hector Gavin, the title of which we give below;(a) and there are, we believe, few men who could arise from its study with as light a heart as they sat down.

We wish we could say *no man*, but we cannot forget those of the City Council who find invigorating breezes in the tainted air of Smithfield; who, strong in the social feeling, are unwilling, after Atropos has cut the (*to themselves*) precious thread her Sisters spun and wove, that the fragrance of their mortal remains should be wasted on the "desert air;" and therefore desire to rest in "their ward;" to linger, if not visibly, yet still *sensibly* among living men, and to enter literally into their hearts by perfuming the breath of morning, and loading the dews of evening.

Published before the cholera invaded the Metropolis, Dr. Gavin's "Ramblings" is a most interesting and able report on the then sanitary conditions of the parish of Bethnal-green.

It consists of a general sketch of the five districts into which the parish is divided,—a particular description of a great number of streets in each district,—evidently drawn from careful personal observation,—and it concludes with a summary of the preceding sketches and illustrations, embracing a general examination of the structure, size, ventilation, &c., of the dwelling-houses, the supply of water, interments, nuisances, &c.

Plainly does Dr. Gavin depict the necessary physical consequences of the hygienic conditions in which the poor of the parish of Bethnal-green were placed.

The truth of his predictions, unfortunately, the present year has verified. Embued himself with that philanthropy which, we rejoice, is so common in our Profession, Dr. Gavin thought, in the simplicity of his heart, that he had but to lay bare the naked truth; he had but to make the upper and middle classes cognizant of the fact, "that multitudes of their fellow-beings have their health injured, their lives sacrificed, their property squandered, their morals depraved," by causes which it was in the power of those classes to remove, in order that the evils might cease; he believed their apathy arose from ignorance and not from avarice. Dr. Gavin wrote; but, alas! he wrote in vain. Eighteen months elapsed after the publication of his book, and the voice of the advocate of the poor was unheeded.

The Cholera came!

In the middle of August, 1849, Mr. Murray, the Registrar for the Hackney-road district of Bethnal-green, made the following Report to the Registrar-General:—

> "The 12th, 13th, and 14th of August will long be remembered in this neighbourhood;" "the hurried passing and re-passing of messengers, and the wailing of relatives, filled the streets with confusion and woe, and impressed on all a deep sense of an awful calamity." "The deaths chiefly happened in a space of about 400 yards by 150."

This space includes the Nichol-streets, Half, Old, and New, Nichols-row, Turville-street, and the courts, &c., connected with them. With very great interest did we turn to Dr. Gavin's account of particular streets, to see in what sanitary condition these death-struck spots were when he visited them in his "ramblings." The Cholera had not then broken out. His

(a) "Sanitary Ramblings; being Sketches and Illustrations of Bethnal-green. A Type of the Condition of the Metropolis and other large Towns. By Hector Gavin, M.D., F.R.C.S.E. Member of the Health of Towns and of London Association, &c.&c. Churchill. Pp. 118."

mind could have been biassed by no prejudices. The following is the account he gives of Half Nichol-street:—

"On the surface of this street were bountifully strewn all kinds of dust, dirt, refuse, and garbage. It is not cleansed more than once in three weeks or a month; and though cleansed (nominally) only last week, it was as filthy and dirty as if apparently it had not been cleansed for months." "The inhabitants, in order to get rid of their refuse, solid as well as fluid, are compelled to throw it on the streets, there to putrify and be mixed up with the mud. In consequence of the free exposure of the animal and vegetable remains, in a pasty state, to the sun, the muddy compost becomes most offensive to the smell, and a constant cause of disease and death to the inhabitants. *Invariably, wherever such filthy streets are found, so likewise are fever and the other zymotic diseases.* Loud complaints were made to me, that the only way of getting rid of the refuse was to throw it on the streets, as the dustmen would not take it away unless paid for so doing. The inhabitants of this street complained bitterly that "*the people in it never died a natural death, but were murdered by the fever.*" In the back yard of No. 21 in this street, the soakage from the neighbouring privies had permeated through the wall, infiltrated them, and spread itself over the yard, when the offensive soil was covered over, and, as it were, dammed up by collections of dust, cinders, and refuse. The Poor-rate collector complained of this place as a great nuisance."

In Nos. 6, 9, 12, 16, 21, and 22, of this street, eight deaths occurred during the 12th, 13th, and 14th of August. The same street of which the unfortunates who dwelt in it complained in 1848, "that its inhabitants never died a natural death, but were murdered by the fever," was the same street which formed a scene of Mr. Murray's graphic sketch in 1849.

The same house, the walls of the back yard of which Dr. Gavin said in 1848, were infiltrated by night-soil from the neighbouring privies, and the yard itself spread over with the same, only dammed in and covered by cinders and refuse,—this same house, No. 21, was one of the earliest visited by cholera in 1849.

Fever and cholera, cholera and fever, are the alternating visitors of these unhappy abodes.

In Nichol's-row, Dr. Gavin says:—

"A cellar here serves for a dust-bin and a privy."

Of Turville-street:—

"Eight houses are without any supply of water. One privy is common to seven houses. They are *all* nasty, and *horribly offensive.*"

Of Shepherd's-court:—

"Excessively dirty and foul. The privies are confined and dirty. Excrements are scattered abroad."

The other streets above referred to appear to have been in a similar sanitary condition.

Sir John Tyrrell *enjoys the honour* of being the ground landlord of some, at least, of these Fever preserves.

During the progress of the cholera, death, induced by that disease, entered two-thirds of the houses in Half Nichol-street; more than half the houses in Turville-street; nearly half those in New Nichol-street; and more than a third of those in Old Nichol-street.

"The moral bearings of the question are," says Dr Gavin, "too vast to enter on."

Yet with such facts as these before them, men proceed to the temple of an omniscient God, and, on bended knees, supplicate *Him* to remove the pestilence from among them, while *they* leave untouched those second causes, which their own intelligence, His gift, His voice, teaches them must inevitably re-produce the malady. Do they expect a miracle, that the contributions of the wealthy may be spared?

Now, as then, mankind need to apply the fable so admirably told by the enchanting and amiable La Fontaine, which we have ventured to "do" into English:—

AIDE TOI, LE CEIL T'AIDERA.

A wagon, piled high up with hay,
Stuck in a muddy road one day.
The driver raised to Heaven his eyes,
And knowing that his anxious cries
By mortal ears could not be heard,
To Hercules his suit preferred.
"Oh Hercules!"—he trembling said—
"Lend to a wretched man thine aid.
"If it be true that once thy back
"Sustained the world and did not crack,
"Place 'gainst my cart thy little finger,
"And in the mud we shall not linger."
He ceased;—and answering his prayer,
A gentle whisper stirred the air.
"Too soon," a voice spoke in the breeze,
"Thou claim'st the aid of Hercules.
"He wills that man shall do his best,
"And then he comes and does the rest.
"Look well about thee—see the cause
"Which stays thy wagon—Nature's laws
"Are simple in their working—feel
"What mud encumbers every wheel—
"Clear it away—now break that stone—
"Fill up that deepest rut. Hast done?"
"All I have done," the driver said.
"Now," said the voice, "expect my aid.
"Take up the whip." "The whip I've found,
"But, bless me! now the wheels go round.
"Hercules, thanks!" The voice replied—
"Let this truth in thy heart abide:
"*To those who help themselves 'tis given*
"*Alone to hope for help from Heaven.*"

In conclusion, if doubt yet lingers in the mind of any man as to the relation between defective sanitary regulations and the spread of epidemic diseases, we would urge him to make, from the Registrar-General's Weekly Returns, street lists of the mortality from cholera in Bethnal-green, and then to compare those lists with Dr. Gavin's account of the particular streets in the same parish. We will answer from experience, that he must rise from his task, what Dr. Gavin strives to make every man, an ardent Sanitary Reformer, convinced that he has no child's play, but God's work, to perform.

THE REPORT OF THE CITY OFFICER OF HEALTH.

A period of time has now elapsed, which may be fairly designated as the first sanitary year of the City of London. Clumsy as this epithet may seem, frightfully as it may be in appearance contrasted with the ravages of the late pestilence, still it is no less significant than true. A civil government, which has long possessed the power of taking life from the guilty, has at length asserted the right of preserving it to the innocent. At last it has legislated to this purpose; and though partially and imperfectly, and under the disadvantageous circumstances of a vast metropolis and a many-times-delegated authority, yet with sufficient effect to render it both justifiable and necessary to ask, —"What are the results of these recent enactments, and what must be the aims of the future?"

When the present Ministry first showed symptoms of yielding to pressure from without, and condescended to listen to sanitary necessities, the Medical Profession fully expected that their services would be essentially requisite to the settlement of the question. Nor was the anticipation altogether unnatural. They had shown their skill by the detection of these evils, their zeal and philanthropy by the exertions which they had made to suppress them. Their disinterestedness had merged in the claims of a common humanity that obvious relation borne by disease to the Medical Practitioner as a means of subsistence. For the Palace Courts of sickness they neither expected nor claimed compensation; nor did any vested interests induce them to abet cruelty and injustice, or harass the defenceless poor. But, being specially educated to comprehend the laws of organized nature, and to treat their deviations, they had a right to presume, that a subject which was altogether included within the range of their thoughts and lives, and excluded from the understandings of others, would be specially entrusted to them.

We need not remind our readers how these expectations have been, in a great measure, disappointed. We need not point to the astounding organization of a non-medical Board of Health,—a body which cannot possibly know what health is, even if an unwonted share of self-knowledge should give it a few stray heads of information as to the composition of a board. Nor do we care to recal the equally wonderful details of its career: it may suffice to say, that it was not merely useless, but hurtful; and that, had its zeal only equalled its ignorance, or had its official advice been as widely followed as diffused, it might have constituted a powerful auxiliary to the very disease against which it was nominally organized. As it was, the wholesale poisonings which were attempted, both in diet and medicine, rendered it necessary for the first Medical Body in the Kingdom to interfere. So exposed and frustrated, the Board of Health may be best dismissed with quiet contempt. Its ludicrous quackery deserves no severer punishment, than that it should be stamped—either with incapacity or thirteen-pence-halfpenny, — we hardly know or care which were best.

Our present object, however, leads us to far other and more agreeable duties than that of dispensing the justice of the Press to this useful and scientific Commission. Some members of our Profession have been appointed agents of Sanitary Reform; and one of those, the Officer of Health to the City of London, pre-eminent both in himself and in the magnitude and importance of his duties, has just laid before the Court of Sewers his Annual Report; while, through the daily papers, this Report has reached the public, backed by the useful help of able leading articles. By this time, we doubt not that many thousands have read it with an interest commensurate to the importance of its contents,—contents which, while they accurately record the fatal events of the past year, also bid fair to render it a recognised manual of sanitary science.

At present we shall neither enter into the details of this Report, nor attempt to abbreviate its brevity in the Procrustean bed of an ordinary newspaper analysis; the less so that we trust there are few of our readers who have not studied it with care. Nor do we intend to load it with its well-earned tribute of critical praise. That it is clear and lucid in arrangement, full

but condensed in its matter, cautious and truthful in its statements, and, in fine, admirably written, is what we can rarely say of the writings that come before us; but is, in this instance, no exaggeration. Still all this might have been expected beforehand. Although the Officer of Health to the City is a man who, perhaps unfortunately for himself, will not speak unless he has something to say; yet, even with this unusual limitation, he is well known by his published writings as one of the first English physiologists and pathologists of the present day, and as one whom the Common Council ought to be glad to secure as their officer, and ashamed so meagrely and inadequately to reward.

It would seem impossible but that our Profession, as a body, must ultimately take a very great share in the execution of sanitary duties; and, in consequence, it becomes very important to notice in what manner a prominent member of our body takes the initiative in these new functions, and how he fulfils them. Regarding the Officer of Health under this view, there is much in his conduct rendering it worthy of remark and of imitation. He appears to have secured the cordial co-operation and respect of that very able and deserving body, the Union Medical Officers; while another very serious difficulty, the adjustment of his new sanitary duties with the forms of a previously existing municipal organization, has been surmounted in an equally honourable, if not an equally satisfactory manner. While we cannot but concede great allowances for the disturbed prejudices of a Corporate body, chosen from among classes necessarily uninformed upon these subjects, still we feel glad to observe that no risk of displeasure or expulsion from office has deterred the author of this report from performing the whole of his duty. We have been informed that, amongst the Corporation of London, there are many who consider that their Officer has far exceeded the bounds of his duty; and that his suggestions are not only reprehensible on this ground, but are also impracticable or ruinously expensive. Indeed, it has been surmised that a sum approaching two hundred millions would be required to carry out all the propositions alluded to in the Report. But the document itself fully exculpates the Officer of Health from all charge of overstepping his legitimate functions, since it shows, that with the question of practicability he is but indirectly concerned; and that, whatever becomes of his suggestions, the setting them forth is expressly stipulated for in the Act of Parliament which defines the duties of his office. And we would add, that the impracticability most to be dreaded is, not what the City cannot, but what it will not do. Even assuming the sum estimated to be correct, there is no necessity for its immediate expenditure, far less for its immediate payment. But when we recall the expensive though ludicrous spectacle of the ninth of November, so lately past, and recollect the sums annually wasted on similar absurdities, or spent in the merest edacity, it is impossible to avoid coming to the conclusion that the City has funds at its disposal beyond the necessary municipal expenditure,—funds which constitute a talent for which its rulers are collectively responsible to God and man. Let a sufficient portion of its vast Corporate income (to be increased, if need be, by increased rates) be annually devoted towards sanitary reform, and neither public opinion, nor the press which represents it, will have the wish, or the power, to complain. While, on any other terms, not even the armoury of their worshipped turtle can preserve the Corporation of London from attacks as continual and lasting as the necessity which gives rise to them.

Finally, it is our agreeable duty to state, that the judicious boldness and independence displayed by Mr. Simon in the present Report, are more calculated to advance the real dignity of the Profession than many speeches and letters on Medical Reform. And contrasting his almost solitary and ill-paid services, with the plural constitution of the Board of Health, and the Government machinery at its disposal, we may fairly deduce that, setting aside all other claims, not only are members of the Medical Profession best fitted by education and habits for such offices, but that they actually are, in practice, the most talented, honest, and, in one word, serviceable, agents of Sanitary Reform.

TYPHUS FEVER, TYPHOID FEVER, RELAPSING FEVER, AND FEBRICULA,

THE DISEASES COMMONLY CONFOUNDED UNDER THE TERM CONTINUED FEVER.

ILLUSTRATED BY CASES COLLECTED AT THE BED-SIDE.

By W. JENNER, M.D. Lond., Professor of Pathological Anatomy, University College; Assistant Physician to University College Hospital, &c.

Some years since I was, in conjunction with one of the most able physicians of the day, a man of great experience, in attendance on a young lady supposed to be labouring under acute idiopathic peritonitis. Death ensued. Fortunately permission was obtained to examine the body. We discovered tolerably extensive ulceration of Peyer's patches, and enlargement of the mesenteric glands; in fact, the anatomical characters of typhoid fever. It was evident that an error in diagnosis had been made. The question then arose, which under such circumstances the practitioner always ought to ask, was the art of medicine defective in not affording means for the diagnosis, or were we behind the age in the information we possessed? (a) I was so struck with the importance of the question, that I determined to investigate the subject of fever on a large scale, if ever opportunity served. Through the kindness of the medical officers of the London Fever Hospital, I have during the last four years been enabled to undertake such researches in an extensive field, and with the greatest facilities for prosecuting the inquiry.

The object of these papers is to illustrate what appears to me to be the state of our knowledge at the present moment on the subject of the diseases commonly called continued fever. I lay little claim to originality. I had no theory to substantiate when I undertook the investigation; I have now no theory to propound. I lost a case which had baffled my knowledge in discovering its nature, and I was only anxious that I might never again commit the same mistake. If, during these researches, I have been led to adopt views not generally acknowledged as correct in this country, it is only because I am unable to withstand the evidence which nature offers of the truth of those views, *where alone* the truth can be elicited, at the bed-side and in the dead-house.

There are two opinions entertained on the subject of continued fever. The first, which is that generally held in this country, may be stated thus—continued fever is one disease, capable of assuming different forms or types, as inflammatory, ataxic, &c.; the stress of the fever may fall on any one organ, and so give rise to the varieties termed bilious fever, brain fever, &c.; the symptoms of this disease vary infinitely according to atmospheric, individual, and hygienic peculiarities; consequently there can be no definition of fever applicable to more than the epidemic prevailing at the time the definition is given; by these atmospheric and hygienic peculiarities are to be explained, the differences in the disease, as observed in Paris and Edinburgh, and its variations at different times in the latter city. Some even go so far as to maintain, that hygienic conditions may develope the poison of plague out of that emanating from a person labouring under typhus fever.

The second and much less commonly received opinion, I say less commonly, but in reality it is not taught in a single systematic work on fever in this country, may be thus stated:

Under the term continued fever are confounded three, if not four fevers, each having its origin in a specific cause; and granting all to be contagious, the poison of one fever is altogether incapable, whatever may be the individual or hygienic conditions existing, of exciting the other. Each is a general disease, capable of being complicated with local lesions; one of the four, however, is constantly attended by a lesion peculiar to it. This morbid structural change so invariably accompanies the general symptoms of that particular fever, that even if the local symptoms which ordinarily indicate the existence of that change be absent, yet, if the *general* symptoms of that fever are present, we may predicate, with absolute certainty, that the lesion alluded to is present also; (the bearing of this fact on prognosis is of incalculable importance.) Perhaps the truth is, however, scarcely expressed by the assertion, that the general state is attended by the local lesion; for the latter is as much a part of the disease, as sore throat is a part of scarlet fever; nay, even more so, for angina is not so constant a concomitant of scarlet fever, as lesion of Peyer's patches is of typhoid fever.

The two opinions, which I have above endeavoured briefly to state, may be illustrated thus,—Suppose a common lodging house, each room of which is in a different hygienic condition, if a person labouring under any form of continued fever,—say those who maintain the identity of the fevers I believe to be different—be admitted into room No. 1, he may produce or excite in the inhabitants of that room typhus fever, with the mulberry or measly rash, or spotted typhus, as it is sometimes called; if he then be removed into No. 2 in the same house, the occupier of that room, inhaling the same poison as did the inhabitant of No. 1, may have short or relapsing fever; the dweller in No. 3, febricula; while the resident in No. 4 may catch from the same person continued fever, complicated with ulceration of Peyer's patches and enlargement of the mesenteric glands; and if—some go so far as to maintain—highly unfavourable hygienic conditions exist in another room in the same house, then may the unfortunate who inhabits it have true oriental plague, as a consequence of inhaling the breath of the man labouring under typhus fever. They further maintain that an eruption on the skin may be present or absent in either, in all, or in none, of these cases; that if present, it may consist of a few rose spots, an abundant exanthematous or mulberry rash, petechiæ or true plague buboes; and that it would be impossible, judging *from the eruption alone*, to predicate the presence or absence of lesion of Peyer's patches and enlargement of the mesenteric glands.

Those who maintain the non-identity of certain continued fevers, say, on the contrary, if a man labouring under typhus fever, *i. e.*, a continued fever, having a determinate duration, and attended

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(a) In justice to the accomplished physician referred to, as well as to myself, I ought here to anticipate, and state that this case presented peculiarities which defied diagnosis so long as the idea of continued fever, severe enough to prove fatal, was confined to cases presenting a brown tongue, delirium, and extreme prostration.

by a peculiar rash, but unaccompanied by lesion of Peyer's patches, be admitted into room No. 1 of a common lodging-house, he can excite in the inhabitant of that room no other disease than typhus fever; that this disease, like all others, may vary in severity; that the dweller in the infected atmosphere may, according to various external, and also individual peculiarities, have a mild or a severe attack, but that the disease will present the symptoms—however different they may be in degree or in number—and, if it prove fatal, the pathological appearances observed in typhus fever, and that the disease will preserve its characters, varying only in severity and number, whether it be communicated to the dwellers in one or all of the rooms of the house; that if a person labouring under what they term another disease, viz., typhoid fever,—*i. e.*, a fever having a determinate duration, accompanied during life by a peculiar eruption, and presenting after death lesion of Peyer's patches and enlargement of the mesenteric glands,—be admitted into the house, he, too, may communicate fever, (a) but then it will be typhoid fever, that as in the first case rose spots and lesion of Peyer's patches were present, so the same eruption, if any and the same lesion will occur in all the cases which have fever from contact with, or proximity to the first case, and this whatever be the individual peculiarities, or external hygienic conditions in which they are placed; exactly as a person labouring under scarlet fever, if admitted into the different rooms of a lodging-house, would excite in the inhabitant of those rooms, scarlet fever, and that disease only, however much the hygienic conditions of its rooms might vary, and however different the individual peculiarities of their inhabitants. Individual and hygienic peculiarities might modify the severity of the disease; but, *if any* eruption occurred, it would be that characteristic of scarlet fever; if any serious lesion, it would be sore throat. The duration of the scarlet fever thus produced would be the same in a large proportion of the cases, though some might have their illness prolonged by local complications, and others might have the disease in so mild a form that they might consider themselves well ere the symptoms characteristic of the diseases, to the eye of the experienced physician, had entirely disappeared. But, however much the hygienic conditions of the rooms might vary, no modification in the poison exhaled could be produced by which it could be converted into a different poison capable of exciting another contagious disease, *i. e.*, one able, like the first, to reproduce itself. Thus a person suffering from scarlet fever cannot produce a poison capable of exciting small-pox, nor *vice versâ*.

The question is not one barren of practical results, as they are termed, (as if *all truths* were not practical,) for, of what avail can be any observations respecting treatment, general or particular, so long as two, three, or four diseases are called by one name. Let me, in illustration, refer to the fact, that measles and scarlet fever were long confounded under the same name. What value could be attached to any observations respecting the efficacy of the treatment of a class of cases in which were confounded two diseases so different in their essential nature as scarlet fever and measles?—diseases, of which not only does the medicinal treatment differ, but the hygienic conditions suited for the one are diametrically opposed to those fitted for the other. For one moment suppose the two, as not many years since they were, thus confounded; a Medical man treats a hundred cases, of which ninety are examples of scarlet fever, ten of measles; he will arrive at the conclusion, that cold sponging is highly beneficial in the treatment of the disease, and he adduces his experience in confirmation of the statement. Now, let us reverse the case, and suppose that another practitioner has one hundred cases of these two diseases, confounded under one name, to treat, and that, of these one hundred cases, ninety are examples of measles, ten of scarlet fever. He uses cold sponging, opens the windows, allows his patient to lie exposed while the eruption is out, &c. He looses a large proportion of his one hundred cases, and finds, on examination after death, pneumonia in every case. He instantly avers, that the treatment declared by the first to be so advantageous, is most deadly, and forthwith advocates a line of treatment diametrically opposed to that which had proved so efficacious in the first practitioner's hands. The same holds true with respect to continued fever: if three or four diseases are united by one name, and then a line of treatment is stated to be successful in continued fever, with what confidence can we receive the statement?

In the epidemic which visited Edinburgh in 1817-20, bloodletting was practised in every case, and was supposed to cut short the fever because, soon after the bleeding, the symptoms disappeared; now observation has proved that a disease, presenting all the symptoms noted in that epidemic, will get well in a short time if left to the unaided effort of nature, and that the inference drawn, that it was possible to cut short true typhus fever by bloodletting, was most erroneous, the disease which was then treated by bloodletting being a totally distinct disease from typhus, but confounded with it. One consequence of the supposed success obtained in bloodletting in that epidemic, was the extensive employment of the same remedy in the true typhus, and incalculable loss of life as a result. Bloodletting is practised with advantage in the common continued fever of Paris; in Scotland wine is the mainstay, and bleeding is stated to be most injurious. Mere difference in epidemic constitution, say the advocates of the identity of the disease in those cities. Two distinct diseases, requiring different modes of treatment, say those who regard them in the light in which I am in these papers about to describe them. There cannot remain a doubt on the minds of those who have treated both diseases on a large scale, during the *same epidemic constitution* and under the *same hygienic peculiarities*, that typhus fever, *i. e.*, the ordinary fever of Edinburgh, requires wine to be administered, and often largely; while typhoid fever, *i. e.*, the continued fever of Paris, and a very common disease in London, demands wine much less frequently, and bears depletion much more easily, nay, often derives marked benefit from it.

Having attempted thus briefly to show that it is of no trifling importance to distinguish two or more diseases confounded under one name, before anything like practical directions for treatment can be offered, I may state, that my intention is merely to give such descriptions and illustrations of the diseases commonly termed continued fever, as shall enable the practitioner to discriminate them from each other with facility. In proof of the ease with which the diagnosis between the two most important,—viz., typhus and typhoid fevers,—can be made, I may state, that the nurses of the London Fever Hospital rarely fail to distinguish between the two; and I am constantly answered, when asking them if any new cases have been admitted, by "Yes, Sir, a case of typhoid or a case of typhus fever," as it may happen, and it is not common for me to have to correct their diagnosis.

I have no intention of attempting to *prove* in *these* papers what *I affirm*,—viz., that each of the diseases here described are really distinct from each other, in the same sense as are scarlet fever and small-pox. That I have already done elsewhere, so far as concerns the symptoms and lesions of typhoid and typhus fevers (a); and I have now in my possession the materials for giving the final proof of their non-identity, by showing that their exciting cause is different. These materials consist of an analytical examination of all the cases in which more than one patient has been admitted from the same house into the London Fever Hospital during the last three years.

The plan I propose to adopt in these papers, is, in the first place, to detail a few cases illustrating the ordinary uncomplicate form of each disease; then to sketch briefly the principal features of that disease in a severe form, with the pathological appearances usually observed in the uncomplicated disease; and, finally, to illustrate the various anomalies and complications of that disease, incidentally referring to the treatment.

For the accuracy of the facts and observations, and for the soundness of the opinions expressed, I am alone responsible. The treatment of the cases has been conducted by the Physicians of the Hospital, Dr. A. Tweedie and Dr. Southwood Smith.

Case 1.—Shortly after exposure to the contagion of fever, accompanied with mulberry rash, and without lesion of Peyer's patches, as proved by examination after death:

Ensued, Sudden debility—Headache—Rigors—Constipated bowels—Mulberry rash—Mental confusion—Delirium—Dry, brown tongue—Extreme prostration—Rapid pulse—Death on the thirteenth day.

Thirty-six hours after death.—Persistence of spots noted during life—Partial loss of cadaveric rigidity—Congestion of the brain and pia mater—Blood beneath the lining membrane of pharynx—Intestinal mucous membrane normal—Mesenteric glands healthy—Liver flabby—Spleen softened—Lungs intensely congested posteriorly—Heart flabby.

J. M., a locksmith, aged from 65 to 70, was admitted into the London Fever Hospital, February 1, 1849, under the care of Dr. Tweedie, an aged-looking, thin man, with grey hair. His residence was an empty house, of which he had charge, 14, London-street, Islington. He had been in the habit of visiting a family named Penny, who lived about one mile from his home. Two of these people were admitted into this hospital a little while since, with well-marked symptoms of typhus fever. The father, aged 46, died, and Peyer's patches and the mesenteric glands were healthy. The son, aged 15, is still in this hospital; he, too, had well-marked mulberry rash. This man, J. M., cleaned out the house of the Pennys, which was in a most filthy state, the week before his present illness commenced. He is of sober habits, but has lately suffered from great want.

January 25th, 1849, he was suddenly seized, about three p.m., with a sense of weariness, pain in his limbs, headache, rigors, and chilliness. His bowels were confined, so that he took two doses of calomel, 5 grains each, an aperient draught, and some jalap. He took to his bed on the first day of his illness and has not left it since. His wife, from whom this history was obtained, noticed his mind to wander three days before his admission. He had had no epistaxis. The following was his state when the first notes of his case were made, on the 11th day of disease:—

He had passed a very restless night, and had but little sleep. He was dozing at the time of the visit, talking in his sleep. There was twitching during sleep of the muscles of the face, arms, and neck. His mind, when he awoke, was found to be very confused. He had no idea where he was, nor how long he had been in the hospital; but he knew those around him. His complexion was particularly muddy. His face was pale; there was no increased vascularity of the conjunctivæ, and the pupils were natural. He was quite unable to leave his bed unassisted, and even turned with some difficulty. His lips were dry; the tongue dry and covered with dark brown rough fur. His bowels confined for the two days preceding his admission, had acted twice since from castor oil; there was no appetite, some thirst, no fulness, resonance, tenderness, nor gurgling of the abdomen. The pulse was 120; very weak. There was much cough;

(a) I assume here, for the sake of elucidating my position, that typhoid fever is contagious. I am, of course, aware, that the contagious nature of typhoid fever, unlike that of typhus, admits of reasonable doubt.

(a) See a series of papers by the author in the *Monthly Journal of Medicine*, for April, June, and subsequent months of the present year, "On the Identity of Typhoid and Typhus Fevers," &c. I may add, that during more than three years' almost daily attendance at the London Fever Hospital, I have not seen nor heard of one exception having occurred among fatal cases to the rule, that fever, accompanied by the rose spots, is also attended by disease of Peyer's patches and the mesenteric glands, and that fever, with mulberry rash, offers, after death, no lesion of the same organs.

the respiration was 30, and quiet. He expectorated a little frothy, tenacious mucous.

Physical chest signs.—Some slight want of resonance posteriorly over the most depending part of lungs. At the same place was heard unequal, coarse, sub-mucous râle, and breath sound appeared as if muffled.

The skin was warm, dry, and spotted.

The spots were very numerous, and there was an abundant subcuticular rash; some of the spots faded on pressure, others were unaffected, none disappeared, none were elevated. They were darker in hue on the back than elsewhere. The dorsum generally was much congested; there were no miliary vesicles.

Gin, 4oz. mist. am. carb. 4tis horis; jus bovs. On the 12th day the pulse had risen to 160, and was very weak, the respiration was 36. He had passed a very restless night; lay night and day with his eyes open muttering unintelligibly. The expression of prostration was much more marked, and he turned in bed with great difficulty. He opened his mouth when told to show his tongue, but made no effort to protrude it. The twitching of the muscles continued,—the conjunctivæ were considerable more injected than natural.

The gin was increased to 6oz. He died at 3 a.m., on the 4th of February, *i.e.*, the 13th day of disease.

The body was examined 36 hours after death, and the following appearances noted:—

Cadaveric rigidity disappearing from upper extremities still tolerably marked in the knees and toes. Abdomen concave. Some greenish discolouration of the flanks and abdominal parietes. Scattered over the whole surface of the trunk and extremities were numerous purplish spots, (*i.e.*, those noted during life). The posterior surface of the body was much discoloured. The spots above referred to were on the discoloured parts darker than elsewhere.

Head.—There was considerable subarachnoid effusion. Opacity and thickening of the arachnoid, especially over the anterior lobe. The pia mater was congested. The arachnoid and pia mater separated in one mass from the convolution, and without removing any of the grey matter. There was a little serosity in the lateral ventricles, and about 1 ounce at the base of the brain. The red points throughout the grey and white matter were more numerous than usual. The substance of the brain, including the central parts, was firm.

The *tongue* was covered with dry brown mucous. The *pharynx* was pale, and there was a little effused blood beneath the mucous membrane of the uvula. The *œsophagus* was dusky purple. The cartilages of the *larynx* were ossified; its lining membrane was pale. The mucous membrane of the trachea was pale and healthy.

There was no fluid in either pleura.

The *left lung* was bound by old adhesions at the apex to the costal pleura; it contained several cretaceous masses. The posterior part of theinferior lobe contained *much* frothy, dirty, reddish serosity; most abundant in the *most depending part*. The texture of this part was softened, its colour *dark* brownish red.

The *right lung* was united to the costal pleura by universal old adhesions; it generally resembled the left.

The bronchial tubes contained much frothy mucus; their mucous membrane was dusky red; its thickness and consistence appeared natural.

The *pericardium* contained about 1 drachm of transparent yellow serosity. The heart was slightly enlarged; its lining membrane was stained on the right side. The valves were healthy, the substance flabby.

Much dark fluid blood, and some loose black coagula escaped from the venæ cavæ and pulmonary veins. The right auricle and ventricle, and the left auricle, were distended with black lobuly coagulated blood; the left ventricle contained a little fluid blood.

In the pulmonary artery and aorta respectively was a smooth clot moulded to the sigmoid valves.

The pyloric half of the lining membrane of the *stomach* was covered with thick mucus. There was no mammillation of that membrane; the consistence and thickness of which was natural. Its colour was *pale* dusky red. The colour, consistence, and thickness of the mucous membrane of the *small and large* intestines was natural throughout. Peyer's patches were very indistinct. There was no enlargement of the mesenteric glands.

The *liver* was flabby, otherwise normal. The *gall bladder* was distended with thick dark greenish bile; its lining membrane appeared healthy.

The *pancreas* was pale and healthy.

The *spleen* weighed 8 oz., and was very much softened; rapidly becoming pulpy on exposure.

The kidneys were healthy in appearance.

The urinary bladder was not examined.

Case 2.—After exposure to the contagion of fever, accompanied with mulberry-rash, and without lesion of Peyer's patches, as proved by examination after death:

Ensued, Sudden frontal headache—Loss of appetite—Extreme chilliness—Bowels regular—Very scanty epistaxis—Mulberry rash—Little loss of strength till ninth day, then sudden and extreme prostration—Mental confusion—Somnolence—Delirium—Dry brown tongue—Absence of abdominal symptoms—Quick pulse—Profuse sweats—Death on the fourteenth day.

Twenty-nine hours after death: Persistence of spots noted during life—Marked cadaveric rigidity—Clots in the cavity of the arachnoid—Congestion of the pia mater and cerebral substance—Intense congestion of the most depending part of the lungs—Heart flabby—Absence of intestinal and mesenteric lesion—Liver flabby—Spleen softened—Separation from basement membrane of the epithelium of œsophagus, kidneys and bladder.

George W., aged 49, a native of London, a labourer in the docks, was admitted into the London Fever Hospital, August 15th, 1849, under the care of Dr. Tweedie. A thin man, with light hair and eyes, and fair skin. His wife was received into the hospital at the same time with himself. (a) He stated that his previous health had been very good, that he had never been confined to his bed before. He affirmed that he was of temperate habits, but this was doubtful.

Present Illness.—About three p.m., on Friday, August 10th, 1849, he was seized with frontal headache. On the following day his appetite failed him, and the pain in the head increased in severity. On the third day he complained of chilliness, and felt so cold that he "could have crept into the fire." He lost a few drops of blood from the nose as he came to the hospital on the 15th. His bowels were regular from the outset, and there had been no vomiting.

Present Symptoms.—August 16th, seventh day of disease.—He slept well last night (*i. e.*, first night in the hospital). His mental powers appear unaffected. The expression of his countenance is nearly natural. He complains of much frontal headache; there is a little vertigo. His special senses are unaffected. The conjunctivæ are somewhat more injected than natural; the pupils are normal.

He walked up stairs on admission last evening unassisted, and now leaves his bed with facility. His position in bed is unconstrained.

His tongue is white, and rather dry in the centre. He has passed, since his admission, four formed stools. He has trifling pain about the umbilicus. There is no fulness, resonance, tenderness, nor gurgling of abdomen.

The pulse 96, is full and soft. There is no cough. The physical chest signs are normal.

The skin is warm, dry, and spotted. The spots are not very numerous on the trunk, but are found in greater number on the extremities. They are not elevated; some disappear; some *fade only* on pressure. Those on the fore-arm and backs of the hands are larger and of a brighter hue than elsewhere; the large majority of these disappear on pressure.

Mist. am. acet.; jus bovs.

On the eighth day somnolence commenced; at the same time his mind became dull and his memory defective. Time being prolonged. The somnolence and mental confusion increased. On the tenth day he complained that he felt his mind was wandering, that he had "*appeared* to travel hundreds of thousands of miles during the night." There was no actual delirium at this time. He knew the name of the day on which he entered the hospital, but thought he had been in eight instead of five days. The conjunctivæ were at this time considerably injected, and the somnolence was almost constant. On the eleventh day he was delirious night and day when aroused from somnolence; the stools and urine were passed into bed.

The somnolence was less constant on the 12th day. The pulse, 96 on the 8th day, was 108 on the 9th, and 120 on the 10th day, which rate of frequency it maintained till the last note was taken on the 13th day.

His tongue on the 9th day was dry brown, and continued unchanged in appearance till his death. He left his bed with difficulty unassisted, on the 9th day, but on the 11th day he could scarcely turn without aid. On the 12th day, he appeared somewhat improved, less somnolent, and more sensible, for he asked to be assisted on to the close pan. He turned in bed also, unassisted, at will. His bowels continued regular, acting twice daily. The stools were solid. The following notes were made on the afternoon of 13th day of disease, *i.e*, that preceding his death:—

"Pulse 120, extremely weak. He is sweating profusely. The nurse states, that he has perspired so much, that his clothes have been soaked through. The skin is cool; the spots are well out, and little affected by pressure on the back. The backs of the hands have a somewhat livid hue. He slept little during the night, but has dozed the greater part of to-day. He is delirious when awake. The conjunctivæ are injected, the left very much less so than the right. He opens his mouth, when told to show his tongue, but makes no effort to protrude it. He is unable to move unassisted in bed. There is some catching of the hands, and *subsultus tendinum.*"

He has passed two watery stools into bed.

The treatment adopted was stimulant. On the 8th day of disease 8 oz. of porter were administered; on the 9th it was increased to a pint. 4 oz. of gin were added on the 10th day, and carbonate of ammonia, in doses of 5 gr., was administered every four hours, in addition to the other stimulants on the 11th day.

He sank gradually, and died at 10 a.m., on the the 23rd August, *i. e.*, the 14th day of disease.

The body of George Warren was examined at 3 p.m., August 24, *i. e.*, twenty-nine hours after death.

Height, 5 ft. 5 in.; length of trunk, 21½ in.; breadth of shoulders, 15 in.

The cadaveric rigidity was well-marked. Numerous purplish spots, the remains of those observed during life were visible on the anterior surface. The posterior surface of the trunk and extremities were of a port-wine hue, dotted over with spots of a much deeper colour, the latter the remains of spots seen before death. The discolouration gradually faded as it approached the anterior surface. The parietes of the iliac fossæ were of a very pale greenish hue; the abdomen concave. The muscles were dark; there was about half an inch of fat on the walls of the abdomen.

Head.—The dura mater appeared normal. On the convex surface of the right hemisphere of the brain, within the cavity of the arachnoid, near the junction of the anterior and middle lobes, and about 1½ inch from the longitudinal fissure, was a crimson and black clot, (*i. e.*, its colour varied with its thickness,) thin, flat, about an inch in diameter. A similar clot was found between the anterior lobe and the *falx cerebri*. Over the convex surface of the left hemisphere, also within the cavity of the arachnoid, were scattered six clots, each about the size of split

(a) This woman's case will be detailed in a subsequent paper. She laboured under well-marked typhus fever, and died on about the twenty-eighth day from the outset of her illness.

pess. A little bloody serosity escaped on dividing the dura mater. The arachnoid covering the convex surface, especially of the middle lobes of the brain, was considerably thickened, and had a milky, semi-opaque appearance. There was a little colourless serosity beneath the arachnoid, slightly elevating that membrane at places, and also infiltrating the pia mater. There was considerable injection of that membrane between the cerebral convolutions. The arachnoid and pia mater separated from the cerebral surface *in one mass*: no portion of the grey matter, however, came away with them. The grey matter of the convolution had a pinkish hue, more marked next the white substance than on the free surface. The red points in the white substance were rather more numerous than is normal. The lateral ventricles contained about one drachm of transparent, colourless, serosity. The vessels of the plexus choroides and the venæ corp. striat. were distended with blood. The cerebral substance, including the commissura mollis, (a) and other central parts, was of good consistence. About half an ounce of serosity was found at the base of the skull, but no clots.

The *tongue* was pale brown, and covered, as was the *velum pend. palat.*, with thick mucus.

The *pharynx*, *œsophagus*, *larynx*, and *trachea*, were healthy in appearance, but there was no trace of epithelium on the œsophagus, and the larynx contained some thick mucus.

There was no fluid in either *pleura*.

The apex of the left lung was firmly adherent to the costal pleura, and in the substance of the apex were several collections of mortar-like matter.

The posterior portion of the inferior lobe was of a deep, brownish-purple colour, and gave exit, on section, to a considerable quantity of red, slightly aerated serosity; on pressure this fluid gushed out. The pulmonary tissue was, however, crepitant, and floated in water. The most depending parts were the deepest in hue and contained the least air. The anterior portion of the lung was pale and somewhat emphysematous.

The right lung resembled the left in all particulars, except that the congestion of the posterior part of the inferior lobe was more marked; and here and there, from its most depending part, very small pieces could be cut which sank in water; there was no line of demarcation between the consolidated and non-consolidated tissue; the latter sank in water when slightly pressed before immersion.

The bronchial tubes contained very little mucus; their lining membrane was of a dull red colour.

There was no enlargement of the bronchial glands.

The pericardium appeared healthy; it contained about three drachms of transparent yellow serosity.

The *heart* slightly enlarged; was very flabby, both sides being equally affected. The endocardium was stained of a dull reddish colour. The right auricle and ventricle contained a moderate-sized, black, and soft fibrinous clot. The left side of the heart was empty. The valves were healthy. Some fluid dark blood, and two or three very small loose black clots escaped from the venæ cavæ and pulmonary veins when the heart was removed.

The mucous membrane of the *stomach* was mammillated throughout, from cardiac orifice to pylorus, excepting only a narrow band along the smaller curvature. There were numerous rugæ along the greater curvature. The consistence of the mucous membrane was firm; its thickness somewhat increased. Strips of half an inch were readily obtained from the anterior surface of the stomach, and seven-eighths from the great cul de sac. Its colour throughout was a delicate, pale, yellowish red grey.

The *small* and *large intestines* were pale and healthy in consistence. Strips of mucous membrane, of ordinary length, were readily obtained.

Peyer's patches were normal in appearance. The mucous membrane covering them was of good consistence. The mesenteric glands were scarcely visible.

(a) When examining the brain, I have alway noted the consistence of the commissura mollis, be cause that is one of the first parts of the organ to suffer from cadaveric softening.

The *liver* was very flabby, and tore with facility. It was of a pale yellowish liver colour.

The gall bladder contained about half an ounce of exceedingly thick bile, green in mass. Its lining membrane appeared normal.

The *spleen* weighed seven and a half ounces. It was decidedly softened.

The *pancreas* was pale and healthy.

The *kidneys* were healthy. A milky fluid was expressed from the mammillæ. The mucous membrane of the urinary bladder was somewhat congested posteriorly. It contained about half an ounce of milky fluid.

The turbidity of the fluid expressed from the kidneys, and of that contained in the bladder, was due to the large number of epithelium scales they contained. Those in the fluid from the bladder were evidently detached from the lining membrane of that organ.

Case 3.—After exposure to the contagion of fever, accompanied by mulberry rash:

Ensued, Sudden attack of pain in limbs—Severe rigors—Heat of Skin—Slight headache—Some loss of mental power—Sudden debility—Bowels regular—Frequent vomiting—Muddy hue of face—Mulberry rash—Tongue somewhat dry and brown—Pulse quick—Absence of abdominal signs—Deafness, 12th day—Marked improvement on 13th day—Recovery—Death on about 40th day from small pox.

J. H, aged 26, an agricultural labourer, not in want of food, but residing in a crowded small room, at Islington, was admitted into the London Fever Hospital, November 3rd, 1848, under the care of Dr. Tweedie. His brother was received into the hospital at the same time, labouring under typhus fever, and covered with well marked mulberry rash. He was a strong made, moderately stout, dark man, who had never suffered a day's illness till the present attack.

On Saturday, October the 28th, 1848, he was seized with pains in the limbs, severe rigors, several times repeated, and each time followed by heat of skin, but there was no sweating; there was, at the same time, slight frontal headache. He vomited several times before his admission. His bowels were regular from the outset. He took to his bed on the Sunday morning, because he "felt too ill and weak to keep about."

The following note was made on the 8th day of disease:—"He slept well last night. The mind is dull, the expression heavy; the face is dusky red, and has a somewhat muddy aspect. There is no headache nor delirium. He suffers from vertigo when in the erect position. The conjunctivæ are very much injected, the pupils natural. With the exception of a bitter taste, and a sense of unpleasant odour, there is no affection of the special senses."

His position in bed is unconstrained, but he leaves it unassisted, with great difficulty.

His lips are dry; there are sordes on the teeth; the tongue is covered with a thick white fur,—its border and tip are red. There is complete loss of appetite; the thirst is considerable. He passed three stools this morning, after a dose of castor oil. There is neither fulness, resonance, tenderness, nor gurgling of the abdomen. The pulse was 120 of moderate power. There was a little cough, and he had expectorated since his admission about two drachms of mucus, streaked with bright blood. There were no abnormal physical chest signs.

The skin was hot, dry, and spotted. The spots were numerous; some obscure, others well marked. They were of irregular shape; the majority faded; a few disappeared on pressure.

Abrad. Capil: Mist. am. acet. Ju. Bovs.

The notes made on the 9th and 10th days show but little change in his condition. On the 11th day, the spots were observed to be decidedly darker in hue, and less affected by pressure. He moaned much in his sleep, and his tongue was dry in the centre. On the 12th day, there was slight deafness, and the pulse fell from 120 to 108; but the tongue was rather tremulous, and the skin continued, as from the first, hot and dry, and the conjunctivæ much injected.

On the 13th day, a decided improvement took place, the pulse had fallen at the time of the visit to 96; the skin was warm and soft, the complexion clearer, the tongue steady, the conjunctivæ less vascular, and the spots paler. On the following day the pulse again fell to 76, the tongue began to clear, the appetite had partially returned, the conjunctivæ were pale, and of the spots merely a trace remained, in the form of a brownish stain; but, at the same time, the deafness increased. This, however, disappeared in about three days, and his appetite was so good that he was placed on convalescent diet. He continued to gain strength for ten days, when he was suddenly seized with rigors, vomiting, &c.; and in three days an eruption of small-pox pustules appeared. He was removed into the Small-pox Hospital. Had the disease in the confluent form, and died in about eight days.

Through the kindness of the medical officers of the Institution, I was permitted to examine the body. It is sufficient to observe that the intestinal canal and mesentery glands were quite free from any trace of lesion. The agminated glands were carefully examined, and I am certain no remains of cicatrization could have escaped observation.

Case 4.—After exposure to the contagion of fever, accompanied with mulberry rash, and without lesion of Peyer's patches, as proved by examination after death:

Ensued, Headache—Pain in the limbs—Delirium—Somewhat relaxed bowels—Absence of abdominal signs—Quick pulse—Mulberry rash—Deafness on the 15th day—Convalescence on the 16th day.

Thomas B., aged 6, a moderately stout fair child, was admitted into the London Fever Hospital April 30th, 1849, under the care of Dr. Tweedie.

His mother, brother, and the nurse of his mother, were all received into the hospital the same week, and all had the mulberry rash.

His present illness commenced on the 20th of April, with headache and pain in the limbs. Delirium was observed on the eighth day of the disease. His bowels were relaxed (from medicine?) for the four days preceding his entrance into the hospital.

The following notes were made when I first saw him on

The 11th day of disease.—He is very delirious, screaming and crying. He says, that he has no pain in his head. The complexion is thick, and there is a mottled appearance of the face, as if from eruption seen through the cuticle. There is no running from the eyes nor nose. He can just stand alone, but staggers a little. His tongue is slightly furred, and dry in the centre. He has passed no stool since his admission this morning. There is no appetite, and but little thirst. The abdomen is free from pain, tenderness, or gurgling. The pulse is 120; rather weak; there is no cough, and no abnormal physical chest signs.

The skin is warm and dry. The trunk and extremities are covered with roundish dusky red spots, not elevated above the surrounding skin, which fade on pressure, and an abundant subcuticular rash. There are no miliary vesicles.

Mist: Am: Acet: Jus. Bov.

The delirium continued the two following days, and he passed restless nights. The mulberry rash was much paler on the fifteenth day; there was a little appetite, and, on the same day, slight deafness was observed for the first time. The tongue dry and brown in the centre on the fourteenth day, was moist and clean on the fifteenth. The bowels acted twice daily; the stools were not watery. The pulse continued 120 till the sixteenth day of disease, when the following note marked his convalescence.

Pulse 96. He slept well; tongue is moist and clean; appetite returning; one stool; no abnormal abdominal signs; skin cool, soft. Spots *scarcely* visible.

I would here direct the reader's particular attention to a few points connected with the four cases above detailed.

1st. The ages of the patients were, respectively, 70, 49, 26, and 6 years; *i. e.*, there was about 20 years' difference in the ages of each of the four cases.

2ndly. Each case was clearly and indisputably traceable to contagion as a highly probable exciting cause.

3rd. These cases agree with each other, and with those from which they caught the disease, in the presence of the diagnostic symptom, *i. e.* the mulberry rash, and in the absence of the anatomical character of typhoid fever, *i. e.* of lesion of Peyer's patches, and enlargement of the mesenteric glands.

4th. These four cases further agree with each other in the duration of the disease under which they laboured.

5th. The two patients who died during the course of the fever, offered no lesion after death to account for the fatal termination; the patient who fell a victim to small-pox, presented no trace of lesion referable to the fever; and the child who recovered, exhibited no symptom that could lead us to suppose that any one organ suffered in such a manner, as that if the child had died, serious structural change would have been seen on examination of the body after death.

[To be continued.]

REPORTS OF SOCIETIES.

WESTMINSTER MEDICAL SOCIETY.

NOVEMBER 3, 1849.

F. HIRD, Esq., President.

Dr. WILLIAM RYAN, exhibited.

CASE OF LARGE HYDROCELE WITH THICKENED SAC.

In the lower part of which is a circular opening, of four and a half inches in circumference, with a well defined thickened edge, from which a prolongation of membrane appears, filled with fluid, and continuous with the general cavity.

The patient, aged 47, five years ago was thrown off a ladder, and in the fall the testis came forcibly on the edge of a cask. He did not experience very severe pain at the time, but had a sensation as if the gland had been quite broken or flattened, and, in the course of half an hour "felt as well as ever," working the remainder of the day. In a few days the scrotum began to swell to about the size of a large egg; remained so a month, and then got smaller. Subsequently it began again to swell, and gradually increased to the present size. It is still increasing. About twelve months after the accident he noticed a second swelling of about the size of a nut proceeding from the larger one, which has, at present, attained the size of the large section of a turkey egg. This has all the appearance of a fold of intestine bulging out; it feels quite soft, and the membrane enclosing it forms quite a contrast with the strong and thickened membrane of the other part of the hydrocele. The tumour now measures 15 inches by 17. It imparts a sensation of fluctuation; there is insensibility to pressure, unless in the back part, in the situation of the testis; no transparency, and no impulse on coughing; the chord seems free. Dr. Ryan observed, that in general, hematocele supervenes on hydrocele; but here there has been no operation which might account for blood being thrown out, nor has there been rupture of the hydrocele at an advanced period. If blood have been poured out, it must have been at the period of the original accident. The diagnosis, as regards hernia or diseased testicle, is much aided by the peculiarity of the case. By pushing up the smaller tumour (a thumb and two fingers can easily enter the opening) the thumb enters the tunica vaginalis by a distinct circular opening of four and a half inches in circumference, with a well defined margin, through which the fluid passes as a continuation of that within the tunica, and contained as it were within a thin bag prolonged from the edge of the opening, and giving it the appearance of a second tumour starting out from the larger. The thumb is not resisted by any obstruction, but feels as if in the centre of a quantity of fluid free from coagula.

The thickened walls of the tunica can thus also be felt between the thumb and the fingers; the testis also distinctly felt from within, which could from the outside be but very imperfectly defined. It would in this case appear as if the reflexed layer of the tunica vaginalis had been burst at the time of the original accident; and that, before the reparative process could have been completed, fluid was poured out, and pushed before it the reparative distensible layer of plastic lymph already thrown out, and so had, up to the present time, kept gradually distending it.

(Since exhibiting the above case to the Society, Dr. Ryan has operated on the hydrocele in company with Mr. Nunn, and drawn away one quart and about an ounce of limpid fluid, without any admixture of blood.)

CHLOROFORM IN MIDWIFERY.

Mr. Greenhalgh opened the adjourned discussion, by briefly stating the results of thirty-two cases which had fallen under his own observation, not one of whom had since suffered from disease of the heart, brain, or lungs, or had been subject to local congestions of any kind. In three cases the forceps were applied; of these, one died five days after delivery from puerperal fever,—all the children were born alive; in one case turning was had recourse to, and the child was still-born; the remaining twenty-eight cases were natural labours. No hæmorrhage occurred in any case; neither was there any delay or difficulty in the expulsion of the placenta. Two suffered severely from intense headaches for some hours after delivery, one of whom had been subject to severe hysterical pains in the head for some years previously. In no case did any permanent ill effects result. The largest amount of chloroform given was 2½ ounces over a space of nine hours; this, also, was the longest period of inhalation, the shortest being seven minutes, the average about two hours. The respective ages of the women were 5—26, 5—30, 3—32, 3—34, 2—22, 2—27, 2—31, 2—38, 1—20, 1—23, 1—24, 1—25, 1—29, 1—33, 1—35, and 1—50; 13 were in their second labour, 7 in their first, 3 their fourth, 3 her sixth, 2 her third, 2 their eighth, 1 their seventh, and 1 their ninth; 8 were of the sanguine temperament; 7 of the nervous; the remainder of a mixed kind; 3 were very stout; 2 very thin; 5, although desirous of inhaling this remedy, commenced to breathe it in a highly nervous state, which greatly retarded its action. All the patients had arrived at the full period of utero-gestation. Mr. Greenhalgh having briefly detailed the particulars of the forceps and turning cases, and given a short account of its effects upon the patient during labour, proceeded to draw the following deductions:—1st. That young children appear to be more susceptible of its influence than those of more advanced age; 2nd. That females are more susceptible of its influence than males; 3rd. That the temperaments possess but slightly modifying influences, except in the highly hysterical diathesis, in which, not infrequently, the most violent excitement is produced, ending in a train of distressing nervous symptoms; 4th. That drunkards, as a general rule, require a larger dose than those of more sober habits; and 5th. That lascivious dreams and remarks are of very rare occurrence, the Author of these observations having met only two out of a large number of cases, in which chloroform had been given for various purposes. Mr. Greenhalgh concluded by stating, that, although chloroform is a very powerful and dangerous remedy, occasionally producing very alarming, nay, fatal effects, yet, if the cases be well selected, the anæsthetic be slowly and cautiously administered, and its effects properly watched, it may be given advantageously either in natural or instrumental labours.

Dr. Henry Bennet had used chloroform extensively in disturbed labours, in operative cases, and also less often for relief in excessive pain. He had found it regulate the contractions of the womb, and quiet irregular action. In cases indicating venesection, &c., he now gives chloroform with universal success, as it allows the ganglionic influences to go on undisturbed. It lessens the irritability of the uterus in turning, and relaxes the soft parts. He referred to Dr. Simpson's experiments recently made on parturition, where the spinal influence had been cut off, as corroborating the value of chloroform. In simple cases he does not give it, unless the fear of pain induces the patient to request it. He considers it infinitely more safe in parturition than in surgical cases. In one case, after inhalation, the uterus relaxed under the binder, causing hæmorrhage, but this accident he attributed to an existing heart disease, and not to the chloroform. He had given it very often in uterine diseases, to obtain more easily the means of examining the case, and where the disease produces great neuralgic pain; also, instead of an opiate, after operations. He had never seen any erotic effects produced, even when he gives it to allay the irritation from enlarged clitoris. In inhaling it a great accumulation of ideas pass through the mind just as insensibility begins. He had given it internally, but found it uncertain.

Mr. Barlow conceived that parturition was more painful than surgical operations, and, therefore, the use of anæsthetics desirable. Unfavourable cases ought to be most minutely detailed to arrive at a proper knowledge of the action of chloroform.

Mr. Gream had heard no new argument in Dr. Murphy's paper, and retained his former objections. He contended, with Dr. Joseph Clarke, that protracted pain in labour does not cause death. Why did Dr. Murphy not quote Collin's, Montgomery, Meigs, &c.? He supposed only because practitioners in large cities, except in one, did not use anæsthetics in midwifery. The results of the practice in Edinburgh showed a great increase in operative cases beyond that met with by most practitioners. If a parturient woman is rendered insensible by chloroform just at the close of her labour, she would recollect nothing of it, the same as if seized with puerperal convulsions.

Dr. Webster detailed three cases in which insanity followed immediately after the use of chloroform in labour; all the cases ultimately recovered. He also referred to the bubbles of air found in the blood in some patients which had died from the use of ether or chloroform.

Dr. Murphy, in reply, had brought forward only facts, and had only referred to those writers who state facts. The Academy of Medicine at Paris had considered the question of bubbles in the blood, but could trace no connexion in it with the anæsthetic. Some constitutions may not bear chloroform; it is, therefore, very necessary to find out what these are. He narrated a case in point, in which a lady was seriously affected by merely rubbing chloroform on her cheek.

MEDICAL SOCIETY OF LONDON.—

OCTOBER 22, 1849.

H. HANCOCK, Esq., President.

CHOLERA AT ALNWICK.

Mr. Dunn read a letter he had received from Mr. Davidson, detailing the sudden outbreak of cholera at Alnwick, in Northumberland. The disease appeared first on the 23rd of September, at three o'clock in the morning, and before 10, a.m., no less than 100 cases had occurred. The great majority of cases occurred in narrow lanes, in which slaughter-houses and open sewers abounded, and where the sanitary condition of the people had been grossly neglected. In one place there were found no less than 147 persons occupying fifteen rooms; they were turned out and the houses cleaned. The writer stated that he had seen some cases in which no premonitory symptoms had occurred. When called to these, he found them speedily pass into a state of asphyxia, from which they rarely recovered. Water had nothing whatever to do with the outbreak or propagation of the disease. The opinion of the writer is, that low, ill ventilated, and badly-drained places, inhabited by the poor, are those which are especially attacked. Filth alone, however, does not generate cholera; but a certain state of the atmosphere is requisite in order that the disease may be developed. At this time diarrhœa prevailed to such an extent that the writer carried with him pills composed of acetate of lead and opium in order to administer speedy relief to those who were affected. Consecutive fever, in some cases, preceded death.

After an uninteresting conversation between Messrs. Dendy, Dunn, and Crisp, and some remarks on the mode of treating cholera, the

President called on Mr. Linnecar to read a paper in reference to a preparation on the table :—

FUNGOID DISEASE OF THE KIDNEY.

The subject of this case was a boy aged two years and ten months. Until twelve months old, he enjoyed uninterrupted good health, with this peculiarity, that the renal secretion was remarkably scanty. In the course of the following six months, he suffered twice from convulsions, which, at the time, were supposed to arise from dentition. Once it was remarked, that he passed a much smaller quantity of urine than was usual with children of his age. In March last, he had an attack of tertian ague, which was easily overcome, but soon after this, the cervical glands were found to be indurated and enlarged, and the superficial veins of the head and neck were peculiarly distinct. His complexion, before somewhat rosy, became pale, and his skin loose. He evinced less disposition to join in play with the other children, and appeared fatigued with little exercise. He had restless nights, and his eyes were sunken: but, as he appeared to enjoy his food, no particular alarm was excited, until near the end of July, when the mother's fears were aroused by the discovery that the lower part of the right side of the abdomen was not only tumid, but firm, and resisting on the application of the hand. Mr. Linnecar now saw him for the first time; he found the whole of the abdomen enlarged; there was dulness on percussion throughout the right half, and extending a little to the left of the mesial line, above and below the umbilicus, the only exception to this being that a sulcus existed on the right side, in a line with the navel, which at first suggested the idea of two tumours. The upper portion, or what appeared to be the upper tumour, stood forward more prominently than any other part, and presented to the eye the size and shape of an ordinary lemon. It was in close apposition with the liver, and was at first supposed to involve the substance of that organ. Passing the hand backwards and in the course of the swelling, it was found to be continued as far as the vertebral column. The lower portion of the tumour occupied the whole of the right iliac fossa pushing upwards and to the left the small intestines. Above, it appeared to commence about half an inch below the umbilicus, and to pass backwards to the vertebral column. The tumour had not a perfectly smooth feel when first examined, but rather a nodulated one, as if made up of a number of smaller bodies. The child was somewhat emaciated, and his complexion pale; the superficial veins of the abdomen, chest, neck, and head, were large and well marked. Pressure on the affected part did not induce pain, and he appeared, when restless, to derive comfort from gentle friction over this part with the hand. He ate freely, and his bowels were in good order. In the month of August he was seen by a physician of eminence, whose opinion was, that the tumour was made up of acephalocysts. To soothe and support the system appeared to be the only indications in his case, and, with that view, fomentations and poultices were applied, vegetable tonics prescribed, opiates were given occasionally, and aperients as circumstances required. On the 5th of September, he was seen by Mr. Hilton, who at once strongly suspected the disease to be fungoid affection of the right kidney. After this his bowels became unsettled, he had a troublesome cough, and, a few days before he died, blood, clotted and diffused through the urine, was discharged from the bladder. On the day of his death he appeared more quiet and comfortable, until about seven o'clock in the evening, when he was seized with convulsions, which terminated his existence in about an hour and three quarters.

The body was inspected sixteen hours after death. It was much emaciated, and the superficial veins of the abdomen, chest, neck, and head, were very distinct. The abdomen was tumid, firm, and dull, on percussion, throughout the right half; the same firmness and the same dulness extended a little to the left of the mesial line above and below the umbilicus; there was resonance, on percussion, in the left hypochondriac and iliac regions. The lower extremities were œdematous, the left more swollen than the right. The lower ribs stood forwards and outwards on both sides; the abdominal wall was very thin; there was very little effusion into the cavity of the peritoneum; omentum destitute of fat. The whole right half of the abdominal cavity was occupied by a firm elastic tumour, which extended about two inches to the left of the mesial line above the umbilicus, and a little more than this below that point; pushing the stomach outwards superiorly, and the small intestines inferiorly. This tumour was separated into two portions by a deep sulcus about 1½ inch in depth, along which ran a considerable vein. At its upper extremity it was firmly adherent to the whole under surface of the right lobe of the liver; and, to the lower portion of the mass, the ascending colon, and about two-thirds of the transverse portion of that bowel was closely united; the vermiform process hanging loose. On passing the hand between the abdominal parietes and the tumour, it was led by the latter to the vertebral column posteriorly; to the diaphragm and under surface of the liver superiorly; and below, across the right iliac fossa and hypogastrium. It had formed no attachment to the small intestines or to the urinary bladder. The right and left lungs were perfectly free in the cavity of the chest, but studded with deposits of a substance in all respects resembling the substance of the diseased mass in the abdomen; heart, pericardium, and pleura perfectly healthy. The right lobe of the liver contained a morbid deposit of the size of an almond, and of a character corresponding with that found elsewhere. The mesenteric glands were loaded with the same substance; the other viscera were healthy. The tumour, on being detached and removed, weighed 5¼ lbs. Left kidney and vessels normal. The whole of the diseased mass was handed over to Mr. Hilton, who found the fungoid disease confined to the cortical portion of the organ; and, although of such large dimensions, the whole mass was found covered by the original investment of the kidney. Two small renal arteries existed—the renal vein was not large—the ureter somewhat dilated, and into one of the infundibular expansions of the kidney, there was projecting, about three-fourths of an inch in length, a portion of the fungoid disease, which explained the appearance of the blood in the urine a short time before death.

Mr. Hilton: I have not examined the tumour very minutely, but I have no doubt of its being a medullary fungoid disease of the right kidney, affecting more particularly the cortical portion of the organ. Mr. Linnecar in his statement has not done himself justice in reference to the diagnosis. When I was requested to see the patient, in consultation with Mr. Linnecar and his partner, some doubt existed in their minds as to whether it was really a case of hydatid tumour, their inclination being, upon the whole, against such an opinion; and after a careful examination I coincided with that view of the case, and came to the conclusion that the swelling was fungoid disease of the kidney. The chief circumstances which led me to such a conclusion were, that the general aspect of the patient strongly resembled what I had previously seen in cases of fungoid kidney; the position of a part of the swelling was in the lumbar region, a portion of it could be detected on making deep pressure in the loin between the last rib and the iliac crest, which was continuous with the projecting mass in front. In addition, an important fact presented itself to complete the diagnosis, on which I placed great reliance in this and the previous cases I had seen—*a portion of intestine (ascending colon) had been recognised, by percussion, lying vertically in front of the tumour, and attached to it.* No distinct fluctuation could be discovered in the swelling, but it had the very yielding elastic character of a fungoid tumour; it did not convey to my fingers the sensation which I have always experienced, when examining, by percussion, a tense hydatid tumour, namely, an evident sharp vibratile thrill: there is, usually, a distinct fluctuation to be felt over the hydatid tumour. In the case before the Society, there was not any blood in the urine, until shortly before death; it generally happens that a portion of the fungoid mass enters the ureter by ulceration, and there bleeds more or less, giving rise to the existence of some blood in the urine (a). When I saw this patient, I expressed my belief that he had fungoid disease disseminated through his lungs. I considered that to be his condition, not only from the pulmonory symptoms, which he then presented, but from having before observed, in several instances, that the lungs are the organs most frequently and early implicated next in succession, when the primary malignant disease is located in the kidneys; this order of succession in the development of the same disease appears to be due to the stream of venous blood having transported the germs of the disease into the capillaries of the lungs, and there inducing, by inoculation, the same disease in the pulmonary tissues;—thence the seeds of disease having once entered the aortic circulation may become more widely distributed, and the same disease may spring up in many and various parts of the body simultaneously.

(a) Since the discussion on this case, Mr. Hilton has examined the pelvis of the kidney, and found a small finger-like piece of the malignant disease projecting into it, which explains the appearance of blood in the urine shortly before death.

Mr. Headland thought that the convulsions were not referrable to teething, but to the daily development of the morbid growth. He was surprised to hear it stated that the urine was healthy. In his opinion, elimination of phosphates is concurrent with disease of the kidney.

Mr. Hilton: My experience does not lead me to such a conclusion. Had I found phosphatic urine, it would not, to my mind, have contributed any evidence that it was fungoid disease, and Mr. Linnecar stated, that the secretion of urine, at the time I saw the patient, was perfectly healthy in every respect except as to quantity; it is quite possible that the deficient secretion of urine may have been the cause of the head symptoms.

Dr. Crisp was surprised at the statement in reference to the urine. In this case there was one healthy kidney, and nature having a compensative power, the secretion was normal. The phosphates in it could not have existed to any extent without having been noticed, and he differed from Mr. Hilton as to the manner in which this disease was carried from the kidney to the lungs.

Mr. Linnecar said, great attention was paid to the excretions, from there being a difference of opinion as to the real nature of the disease. The urine was carefully examined from time to time; its specific gravity was 1000. It contained nothing more than the normal contents of healthy urine till a few days before death, when its specific gravity rose to 1012; there were no deposits. He was not aware till now that phosphatic urine was a sign of disease of the kidney. He should consider albuminous urine more to be relied on. The convulsions were attributable to teething.

After an animated discussion on the mode in which disease is transmitted from one part of the system to another, and on the deposits in the urine in depressing diseases, the meeting adjourned.

NOVEMBER 5, 1849.

Dr. WALLER, Vice-President, in the Chair.

Mr. Pilcher, in renewing the discussion on cholera from the previous evening, remarked that he considered the disease to arise from the malaria generated by decomposing animal and vegetable matters, and to obey the laws of malarious diseases —laws which at present, perhaps, are not yet made out. He did not believe that it was produced by any special trade, although some, perhaps, might cause a predisposition to its outbreak. The dozens of cases at Herne Bay, as mentioned by Mr. Hunt, were produced in precisely the same way as were hundreds at Berlin; in a quarter of that city where it raged most violently, every house was affected, nine out of ten of the inhabitants were seized, and a large majority of those taken ill died. The whole of the drains in this part poured their contents into one vast reservoir—a fact which was not known till an inspector pointed it out. The men living there were employed in making a canal, and they often slept out in the open air, and frequently in wet clothes, returning home occasionally only. Of these only 4 per cent. were attacked, and the majority recovered; of their families, from 70 to 90 per cent were attacked, and a great many died. The men were only occasionally exposed to the malarious influence. They certainly lived better than their families while they were at work, but still they suffered extreme hardships and considerable privations. Special trades had not much influence in the production of the disease except as predisposing causes, and obliging men to reside in malarious districts.

Dr. Crisp remarked, that the persons whose occupations exposed them to the emanations from dead animal matter, were peculiarly exempt from the disease; that only 17 Medical men, out of 2,670 in London had died, and no medical students.

Mr. Hunt agreed that bad drainage was very injurious.

Mr. Clarke did not consider that bad drainage would induce cholera, but when the disease was present it would greatly assist its propagation.

Dr. Willshire thought there was more truth in the facts connected with cholera, than in the theories which had been based on these facts. The disease broke out in 1817 at Jessore, in the jungle of the Delta on the low level, crossed over the table lands of the Himalaya, passed into the interior of India, over the sandy plains of Arabia, through Russia into Europe, breaking out in different places at all seasons of the year, and in all geographical, geological, and climatorial conditions, and under different degrees of solar light and heat. The cholera, on this occasion, made its appearance in London, during the warmth of our summer; in 1832 it broke out in winter. In the most philosophical Papers that had been published, those of Ross in the *Medical Times*, the disease was referred to two subsidiary causes, level and drainage. When there occurs an irruption of the disease, and the cases are severe, it depends on a low level and a bad drainage. A difference in the magnetic intensity of the earth's surface, was at one time supposed to have influence in causing the disease, but this was disproved by the Royal Academy at St. Petersburgh. The absence of ozone had also been brought forward as a predisposing cause; but of the absolute existence of this there is no proof. He would ask Mr. Hunt, if the presence of effete animal matter was a cause of the disease, how he would explain its outbreak among troops on the march, in parts of India and Ceylon, where there were no other human inhabitants than those troops?

Mr. Hunt had not mentioned that as the sole cause, but he considered, that when bad drainage did so act, it was because it contained human excrement.

Dr. Willshire was of opinion, that vegetable organic remains had a great deal to do with the propagation of the disease.

Some further remarks, on the malarious origin of the disease, were offered by Mr. Pilcher, Dr. Crisp, and Mr. Roberts, after which Mr. Pilcher described a case of obstruction of the colon by a plum-stone, and exhibited the parts engaged in the disease.

The patient was an old and valued servant of his brother's, about 56 years of age. Had been labouring under constipation of the bowels, with distended abdomen and occasional vomiting, for three days; had taken drastic purgations, but without effect. There was a tumour in the right side of the abdomen, which was diminished in size by pressure, and moveable to some extent. The application of leeches had been attended with some relief. A careful examination proved the non-existence of hernia. Small doses of blue pill and extract of henbane were ordered, and then succeeded by injections, which were also ineffectual in procuring relief. An injection was then given through the large tube of the stomach-pump pressed up into the colon; but without producing the slightest advantage, and the patient died on the sixth day. The body was examined the same evening. The intestines were found to be greatly distended, with some signs of inflammation. In the transverse arch of the colon there were two or three ulcerations, not penetrating into the peritoneal cavity, being closed by the omentum. Embedded in one of these was a plum-stone, lying in an artificial pouch, as it were. The mucous membrane of the lower part of the ileum was extensively ulcerated. The ileo-coecal valve healthy, as was also the remaining portion of the intestines. The history of the case showed, that six weeks previously she became very poorly after eating freely of plum-tart, of which she was very fond. She had an attack of constipation, which was retarded by the measures which were adopted at the time, but relieved occasionally afterwards. It was a question, whether the presence of the plum-stone was the original cause of the disease, or whether the intestine had been previously constricted, and thus arrested the progress of the stone. She had not, previously, exhibited signs of disease. Did the stone, in its attempts to pass through the ileo-coecal valve, cause the ulceration of the mucous membrane of the ileum?

The preparation was exhibited.

Notice was then given, that on the 3rd of December a special meeting would be held, to consider the propriety of removing the Society from Bolt-court, of changing the day of meeting, and further of electing the President for one year only.

The meeting then adjourned.

REGISTRAR-GENERAL'S QUARTERLY RETURN, TO SEPTEMBER, 1849.

Having carefully considered this document, we proceed to present our readers with an analysis of its contents, in which we have endeavoured to keep in view all those points of interest to the Profession from which may flow practical benefits.

The general results are as follow:—

The marriages are a little above the average, the births slightly below the average, the deaths in greater number than have ever before been registered. The deaths in the three months were 135,364, or 47,602 more than were registered in the summer quarter of 1848. They exceeded the births (135,200) by 164; and as the emigrants in the quarter from London, Liverpool, and Plymouth alone, amounted, according to the Emigration Commissioners, to 46,558, the population of England has suffered, during that period to an extent of which there is no example in the present century.

I. To begin with

London.—The deaths were 27,109, and exceeded the births (17,224) by 9,885. The deaths by diseases of the zymotic class were 17,763; by other diseases, 9,287; the causes of 59 deaths were unspecified; only 78 deaths from small-pox, and 274 from measles were registered, 428 from hooping-cough, 386 from scarlatina. Scarlatina suddenly subsided. Of typhus, 710 persons died. The co-existence of influenza and cholera as epidemics appears never to have been witnessed.

The course of the cholera in London has been already detailed in our Journal; we therefore omit further reference to it here.

The deaths from all causes were 3,183, or about three times the average number, in the first week of September; and 27,109, or double the average, in the thirteen weeks of the quarter. The mortality from cholera varied in different districts of the metropolis from 8 to 239 in 10,000; and was greatest in the low, the worst drained, the poorest districts; the districts supplied with water from the Thames between Waterloo-bridge and Battersea New Town.

II. South-Eastern Division.—The epidemic extended in *Surrey* up the Thames to Richmond and through Mitcham, south of Wandsworth, to Croydon; Epsom and the districts on and south of the Surrey hills partially escaped. Farnham was healthy, notwithstanding bad drainage, and immigration of many strangers of the poorest class to it during the hop-picking. In *Kent*, the districts on the Thames, the Medway, and coast from Gravesend, Milton, Rochester, and Chatham, to the Isle of Thanet, including Margate and Ramsgate, suffered severely. The deaths in Gravesend are on an average plast quarter, however, 193 were by cholera The, mortality of Margate, Ramsgate, the Isle of Thanet, and Hastings was more than double the average; in Brighton the mortality was little less than in those just mentioned. Maidstone on the Medway suffered. In the Isle of Grain (Hoo), Folkstone, and in several districts in the interior of Kent and Sussex, the mortality was below, or not above the average. *Berkshire.*—The deaths in Windsor, Wokingham, Reading, Bradfield, Wallingford, and Abingdon were somewhat above the average. The mortality was low in Wantage and Faringdon. *Hampshire.*—The deaths in Portsea Island, including Portsmouth, were about three times the average. The island, says Mr. Martin, is not two feet above high-water mark, and parts are below; the drainage . . . . The mortality was double the average in the Isle of Wight. Many districts of Hampshire were unusually healthy.

III. South Midland Division.—*Middlesex.*—Brentford, Staines, Edmonton, and Barnet had many deaths; but the other districts suffered less. *Hertfordshire.*—Royston and Hitchin, also Ware and Hertford on the Lea, and where the New River has its source, as also Watford on the railway, suffered severely. *Buckinghamshire.*—Great Marlow and High Wycombe suffered. The other districts, except Eton, were unusually healthy. *Oxfordshire.*—In Oxford, 89 persons died from cholera; but no deaths occurred in 6 parishes where the streets are wide and clean. The other districts were healthy, except Headington, Witney, and Banbury. *Northamptonshire.*—Northampton has been affected by cholera; but the rest of the county, as well as *Huntingdonshire* and *Bedfordshire*, have been healthy. *Cambridgeshire.*—In the Wisbeach sub-district, and in North Witchford, many cases. Both districts are on the coast side of the Isle of Ely. Cambridge and several remaining districts have been healthy.

IV. Eastern Division.—*Essex.*—In West Ham and Romford the deaths were double the average, and rife in Rochford, north of the Thames, at its mouth; and in Tendring, extending north to the Stour, the mortality was high. In Harwich the births were 28, the deaths 111. The other more rural districts were healthy, except Dunmow. *Suffolk.*—Ipswich, generally unhealthy, had 241 deaths, or somewhat above the average number; a few from cholera. In Plomesgate and Blything, on the the mortality was slightly above the average. coast, and at Stow and Cosford in the interior. *Norfolk.*—In Yarmouth, Norwich, and Depwade, the two first connected by the navigable river Yare, the mortality was sensibly above the average. At Yarmouth, the mortality was not double the average. The rest of the coast of Norfolk suffered nothing; and many of the districts unusually healthy.

V. South-Western Division.—*Wiltshire* has presented great contrasts. Highworth, Cricklade, Malmesbury, and Marlborough, healthy; so have Pewsey and Amesbury; as well as Tisbury and Mere on the borders of Dorsetshire. Chippenham, Calne, Devizes, Melksham, Bradford, and Salisbury, had an excess of deaths. Salisbury is always an unhealthy place; the courts and alleys are always in a filthy state. The surrounding districts of Wilton and Alderbury suffered much. The Avon flows from Salisbury through Fordingbridge, Ringwood, and Christchurch to the sea. Fordingbridge was infected; Ringwood lower down the river, and Christchurch on the sea, as well as Lymington, were unusually healthy. *Dorsetshire.*—With few exceptions the health of the districts of the interior was above the average. *Devonshire.*—The mortality has been higher than the average in the districts on the south coast; Exeter has suffered lightly. In Newton Abbot, on the Teign, the deaths were nearly doubled. In Plymouth and the adjoining districts, the mortality was more than three times the average of the season. The mortality was below the average rate in the districts of Central and of North Devon, except in Barnstaple, on the west coast. Scarlatina, diarrhœa, and cholera, were prevalent in the lower parts of Ilfracombe, a healthy place, but a port over against Swansea and Neath, where cholera was excessively fatal. *Cornwall.*—In St. Germans, next Plymouth and the estuary of the Tamar, the deaths from all causes were five times the average. In the little fishing town of Kingsand 93 died out of a population of 789. In Liskeard the mortality was doubled. In St. Austell the deaths nearly tripled. In the Mevagissey sub-district the births were 16, the deaths 140, in a population of 5218. Truro, and Falmouth, and Redruth, were also attacked, but the deaths were not raised more than 50 per cent. Helston, Penzance, and the Scilly Islands, with Launceston, Camelford, and Stratton, were exceedingly healthy. *Somersetshire.*—The mortality below the average in several districts of Somersetshire; but Bridgewater suffered to some extent, so did Wells, Shepton Mallet, and Clutton. In Keynsham and Bath, on the Avon, the mortality was raised about 50 per cent. by cholera; in Bedminster, separated from Bristol by the Avon, the deaths were tripled.

VI. West Midland Division.—*Gloucestershire.*—Bristol and Clifton suffered severely. Cholera raged in the Poor Asylum, Stapleton. The mortality of Tewkesbury was doubled by cholera. In *Herefordshire* and in *Worcestershire* the general mortality is not above the average. Cholera raised the mortality in Stourbridge and in Kingswinford. *Shropshire.*—The mortality of Shrewsbury was double the average. The disease reached Welshpool, in Montgomery, where the Severn ceases to be navigable. A few cases in other districts of Shropshire. *Staffordshire.*—Newcastle-under-Lyme suffered severely. This town is on some of the highest ground in the interior of England. It is in a basin, and the Lyme, made the

open sewer, running through the town, is dammed up by a mill, and sends up from its polluted, black puddly bed poisonous exhalations. Stafford, Leek, Cheadle, Uttoxeter, Burton-upon-Trent, Tamworth, and Penkridge were as healthy as usual. Wolverhampton was one of the great stations of cholera; the deaths were three times the average number. In Bilston, one of the sub-districts, the deaths registered were 671. Kinfare was very healthy. In Walsall and West Bromwich the deaths were less than double the average. In Dudley the mortality of the whole district was not above the average. *Warwickshire.*—The mortality was low in Birmingham; the same in Aston, in Warwick, and the other districts, except Shipton-on-Stour and also Stratford-upon-Avon. Coventry suffered severely, more than double the average. The mortality was somewhat above the average in Foleshill. The sanitary conditions of Coventry are unfavourable.

VII. North Midland Division.—Leicester, and all the other districts of *Leicestershire* (except Market Harborough) and *Rutlandshire*, less than the average mortality, (the several Registers in Leicestershire attribute the general healthiness to prompt sanitary measures taken by local committees); as also Lincoln, and all the districts of *Lincolnshire*, except Gainsborough, where cholera raged with violence. Gainsborough is in communication with the port of Hull, on the north side of the Humber. In Glanford Brigg, opposite Hull, the mortality was one-fourth above the average; and there were some deaths from cholera, as there were in Boston, the only seaport town, except Grimsby, on the long coast of Lincolnshire. Nottingham, on the Trent, and all the districts of *Nottinghamshire* have been comparatively healthy, except East Retford. The districts of *Derbyshire* were unusually healthy.

VIII. North-Western Division.—Nantwich and Runcorn, in *Cheshire*, suffered from cholera; Stockport, especially Heaton Norris, and the town sub-districts, lost several lives by cholera; some of the sub-districts were unusually healthy. Cholera prevailed in Chester; in Wirrall, including Birkenhead, and on the south side of the Mersey. *Lancashire.*—Liverpool was one of the chief cholera stations; here it destroyed 3,488 lives. West Derby surrounds Liverpool on the land side; the deaths were, in the quarter, probably 2 per cent. Prescot and Wigan suffered to about half the extent. The deaths in Manchester, Chorlton, and Salford, were rather more than 1 per cent. Warrington and Ormskirk, on the west coast, suffered from the epidemic, but not severely. Bolton, Bury and Worsley, Ashton, Oldham, Rochdale, Haslingden, Clitheroe, Blackburn, Chorley, in the interior; Fylde, and Garstang, and Ulverstone, on the coast, experienced not more than the usual mortality. Cholera raised the mortality in Preston-on-the-Ribble, and in Lancaster.

IX. Yorkshire.—*West Riding of York.*—In the high lands, at the head of the basin of the Ribble, the deaths were much below the average. Cholera had not prevailed. And the same may be said of Skipton, Settle, Ripon, Knaresborough, Keighley, Todmorden, Saddleworth, and all the districts of the West Riding at the upper part of the great basin of the Ouse. The mortality has been below the average in Halifax, as well as in Huddersfield. The cholera broke out with great violence in some labourers' dwellings on a hill-side at Huddersfield. The Registrar of Huddersfield states some facts, showing the wretched sanitary state of the locality nuisances of all sorts being allowed to exist Kingston, a part of the low Portsea Island, on the south coast, is also remarked upon by the Registrar as being in a bad sanitary condition; and such instances enable us to understand how cholera can be made fatal on open fields, hill sides, and high lands, in the interior of the country. In Leeds the deaths were 1934, the population near 100,000. In the Hunslet sub-district the deaths were 535, about 3 per cent. of the population, and the deaths from cholera were 307. The township is flat, and many parts are as low as the river. Ecclesfield, Wortley, Ecclesall Bierlow, Rotherham, experienced no increase in the mortality though the cholera had visited them. Sheffield was visited severely by the epidemic in 1832-3, and the authorities appear to have efficiently carried out judicious sanitary measures; still it has suffered to some extent, though not severely. Descending the Don and the river Went, through Don[illegible] Thorne to Goole and Selby, cholera [illegible] more fatal, raising, and, in the ports, [illegible] the mortality.

[illegible]—Hull, on the river of that name and [illegible] Humber, was swept by the pestilence; the [illegible]lity was about 3½ per cent. In Hull and Sculcoates the mortality was 3 per cent. in three months.

The deaths in York were at the rate of 4 per cent. per annum of the population, and cholera prevailed there with severity; also in Pocklington and Howden.

North Riding.—The mortality in all the districts of the North Riding, except Scarborough, is naturally low, and in the last summer it was below the average. The ports scarcely suffered.

X. Northern Division.—"Descending to the Tees, and traversing the coal regions of Durham," says the Report, "the shadows of death thicken around us. Barnardcastle, Darlington, Stockton down the Tees, Yarm, and Hartlepool suffered; so did Durham, Chester-le-Street, and Sunderland on the Wear, and Gateshead, south of the Tyne. The mortality of Weardale and Auckland—higher up and round the sources of the Wear—was below the average. The deaths in Newcastle-upon-Tyne, in *Northumberland*, over against Gateshead, were about 1 per cent. of the population; the deaths in Tynemouth, including North Shields, were three times the average. Alnwick on the coast, and Berwick-on-Tweed suffered to a slight extent from the epidemic. Cumberland, generally, enjoyed more than average salubrity. The five western districts on the coast, Carlisle communicating with Newcastle by the railway, Wigton, Cockermouth, Whitehaven, and Bootle have experienced a mortality higher than their average. The Workington sub-district of Cockermouth, on the coast, was attacked by the epidemic at the end of July; the Cockermouth sub-district, higher up the Derwent, much later. *Westmoreland* was healthy. The registrars, in their notes, return "no epidemic."

XI. Welch Division.—Chepstow and Monmouth on the Wye were healthy; Newport, Pontypool, and Abergavenny were ravaged by cholera. "Cholera found lodgment in one of the filthiest streets of the town of Newport" about the middle of May; 19 deaths from this cause were registered in the June quarter; 182 in the last quarter, ending September. The sub-districts of Abergavenny present striking contrasts: in Tredegar there were 157, and in Aberystruth 210 deaths from cholera; in Abergavenny itself only 9. Merthyr Tydfil was one of the great cholera works among the hills. Death is always busy here; but, in the last quarter, 1876 lives were destroyed, viz.: 41 in Gelligaer; 487 in Lower Merthyr Tidfil; 1023 in Upper Merthyr Tydfil; and 325 in Aberdare. The mortality was about 2½ per cent. higher than in some of the worst districts of London. The most populous parts of Merthyr Tidfil are well situated on sloping ground, a very small portion being on a level. The Report here gives a striking instance to what extent the salubrity of a locality may be affected by human interference [illegible] lost in the mining districts is inconceivable." Descending the Taffe to Llandaff and Cardiff, traces of death are seen on every side. In *Carmarthenshire*, the deaths were double their average. *Pembrokeshire*, with its ports and harbours, escaped; a few isolated cases of cholera occurred, in the sub-districts around; others were "unusually healthy." In Cardigan and Newcastle-in-Emlyn, and Tregaron, the mortality did not exceed the average; in Aberayron and Aberystwith it did slightly; *Brecknockshire* suffered; Builth, in the north, was healthy; in Tay the deaths were scarcely above the average; so of *Radnorshire*, as well as Machinlleth in *Montgomeryshire*. Newtown, at the end of the quarter, and Pool, to which the Severn is navigable, in Montgomeryshire, suffered from the epidemic; so did Holywell, in *Flintshire*, on the estuary of the Dee. *Denbighshire*, *Merionethshire*, extending from Cader Idris to Snowdon, were left unscathed by the cholera. In *Carnarvonshire*, the mortality of Conway and Carnarvon was not above the average, but in Bangor and Holyhead, on the road to Ireland, cholera prevailed. The Anglesey district suffered less than the Isle of Wight.

The following is a general summary for London, and so far as Deaths being over Births is a test of unhealthiness, is instructive:—In London, the Deaths are over Births in 55 Districts, by 5,540; and under Births, in 18 Districts, by 435. In the West District they are over in 7, and under in 2 Districts; in the North, over in 5, and under in 7; in the Central, over in 10, under in 5; in the East, over in 15, under in 2; and in the South, over in 18, and under in 3. The 18 Districts in which the Births exceeded the Deaths, are—

West—St. George's, Hanover-square; St. James's, Westminster (Golden-square). *North*—Marylebone (St. Mary); ditto (Christchurch); Hampstead; Pancras (Kentish-town); ditto (Somer's-town); Islington (West); Hackney (Stamford-hill). *Central*—Holborn (St. George the Martyr and St. Andrew, Western); Clerkenwell (Amwell); St. Luke (Old-street); ditto (City-road). *East*—St. George-in-the-East (St. Paul); Stepney (Mile-end Old Town, Upper). *South*—Wandsworth ([illegible]); Lewisham (Plumstead); Lewisham (Sydenham).

With respect to the Country generally, the following appears to be the result. It shows in how many Districts the Deaths were over, and in how many under Births:—

	Deaths over Births.	Deaths under Births.
SOUTH-EASTERN.		
Surrey	6	7
Kent	17	13
Sussex	6	10
Hampshire ...	18	14
Berkshire ...	4	6
Districts ...	51	49
SOUTH MIDLAND.		
Middlesex (part)	8	7
Hertfordshire...	3	11
Buckinghamsh.	3	9
Oxfordshire ...	1	6
Northamptonsh.	1	7
Huntingdonsh..	0	3
Bedfordshire ...	0	4
Cambridgeshire	3	
Districts ...	19	57
EASTERN DIVISION.		
Essex	12	18
Suffolk	4	16
Norfolk	2	15
Districts ...	18	49
SOUTH-WESTERN.		
Wiltshire ..	6	18
Dorsetshire ..	4	4
Devonshire ...	17	25
Cornwall ...	8	15
Somersetshire..	9	15
Districts ...	44	72
WEST MIDLAND.		
Gloucestershire	12	11
Herefordshire...	1	2
Shropshire ...	8	12
Staffordshire ...	9	16
Worcestershire.	1	15
Warwickshire ..	4	14
Districts ...	35	70

	Deaths over Births.	Deaths under Births.
NORTH MIDLAND.		
Leicestershire ..	0	9
Rutlandshire ..	0	2
Lincolnshire ..	2	18
Nottinghamsh..	1	10
Derbyshire ...	1	8
Districts ...	4	47
NORTH-WESTERN.		
Cheshire ...	5	
Lancashire ...	30	
Districts ...	35	83
YORK DIVISION.		
West Riding ...	21	49
East „ (with York) ...	13	
North Riding...	1	
Districts ...	35	65
NORTHERN.		
Durham ...	10	10
Northumberland	9	4
Cumberland ...	1	7
Westmoreland..	0	4
Districts ...	20	25
WELCH.		
Monmouthshire	4	5
South Wales ...	19	15
North Wales ...	5	9
Districts ...	28	29

Giving a result of 289 districts in which Deaths were over Births, and 545 where Births were over Deaths; and according to this we have not decreased in general population, at least over one-half of the kingdom, although we have not maintained our rate of increase.

HEALTH OF LONDON DURING THE WEEK ENDING NOV. 10.

The Registrar's Return gives a total of 893 deaths from all causes; an increase of 56 on those of last week; but a decrease on the average of 5 autumns of 269. The particulars as to sex, and the proportion of births to deaths will be seen by our Tables. Zymotic diseases are below the average by 91, occurring principally under the heads small-pox, measles, scarlatina, hooping-cough, cholera, influenza, and typhus. Six deaths only are returned from cholera, being 2 below the average. Under sporadic diseases, the deaths from tubercular diseases are 30 below the average; diseases of the brain, spinal marrow, nerves, and senses, 21 below; diseases of the lungs and other organs of respiration, 71; of the stomach, liver, and other organs of digestion, 24; from age the deaths are below by 15; and from violence, privation, cold, and intemperance, 14. The deaths from atrophy are above the average by 8, the numbers being 26 to 18. The decrease under the head diseases of the lungs and other organs of respiration, is worthy of notice, that decrease taking place principally in pneumonia, which shows a decrease of 26; in asthma, 16; and in bronchitis, 17. No deaths are registered under the heads, ague, infantile fever, noma or canker, hydrophobia, ulcer, fistula, chorea, aneurism, ascites, stricture of intestinal canal, disease of pancreas, hepatitis, ischuria, diabetes, stone, cystitis, paramenia, ovarian dropsy, arthritis, diseases of the skin and cellular tissue, intemperance, privation of food, neglect, and cold, the total average of these being for the 5 autumns, 19·9. Of the 6 deaths by cholera,

1 occurred in the North District, to the daughter of a labourer, aged 1½ residing at Water-lane, Homerton; duration 3 days. House clean and airy. 1 in the East District, (Hackney-road,) a journeyman cordwainer, aged 38, at Weatherhead-gardens, Crabtree-row; duration 2 days; a low and undrained spot, with a porous soil, through which the waste water percolates freely. And 4 in the South districts; 1 in St. Saviour, Southwark (Christchurch) an actress, aged 22, spinster; Boundary-row; duration twenty-two hours. She had drank freely of wine and brandy on the night before her decease, and was intoxicated when the medical man saw her the next morning. 1 in Bermondsey (St. James) a daughter of Officer of Customs, aged 7, cholera biliosa; Drummond-road. 1 in King's-row, Walworth, the wife of a compositor; cholæraic diarrhœa 4 months, anasarca and ascites 2 months; and a female child, aged 1 year and 7 months, cholera, atrophy, in Lambeth. Of the 25 cases of diarrhœa, 5 occurred in the West Districts; 1 in the North; 3 in the Central; 7 in the East; and 9 in the South. The 1 death registered from apoplexy occurred in Huntingdon-street, Hoxton, to a female aged 65, who had lived for 4 years in a cellar 11ft. 4in. long, 9ft. 6in. wide, 5ft. 9in. high, and 5ft. 7in. below the surface of the street, with a small window, and the walls so damp that water might be brushed from them.

The daily reading of the barometer was above 30in. on Thursday, Friday, and Saturday by ·191, ·217, and ·155 respectively. The temperature was plus the average of 7 years on Sunday and Monday, minus on Tuesday, and plus on the other days of the week; in the whole period giving a plus of 4·1. On Thursday the reading was 56·5, being plus 10·3 over the average. No electricity was shown on Sunday, Wednesday, Thursday, Friday, and Saturday; positive and tension strong on the other days.

MORTALITY TABLE,

(Metropolis.)

For the Week ending Saturday, Nov. 10, 1849.

Causes of Death.	Total.	Average of Five Autumns.
All Causes	893	1162
Specified Causes	888	1158
Zymotic (or Epidemic, Endemic, and Contagious) Diseases	216	307
Sporadic Diseases;		
Dropsy, Cancer and other Diseases of uncertain or variable seat	47	49
Tubercular Diseases	148	178
Diseases of the brain, Spinal Marrow, Nerves, and Senses	104	125
Diseases of the Heart and Blood vessels	38	40
Diseases of the Lungs, and of the other Organs of Respiration	143	214
Diseases of the Stomach, Liver and other Organs of Digestion	41	65
Diseases of the Kidneys, &c.	10	11
Childbirth, Diseases of the Uterus, &c.	9	11
Rheumatism, Diseases of the Bones, Joints &c.	9	6
Diseases of the Skin, Cellular Tissue, &c.	...	1
Malformations	3	4
Premature Birth and Debility	43	28
Atrophy	26	18
Age	42	57
Sudden	7	12
Violence, Privation, Cold, and Intemperance	20	30
Causes not Specified	5	4

The following is the number of Deaths occurring from some of the more important special causes:—

Apoplexy	18	Heart	29	Phthisis	137
Bronchitis ...	51	Hooping-cough	19	Pneumonia ...	76
Cholera.........	6	Hydrocephalus	22	Scarlatina	58
Childbirth	4	Influenza	2	Small-pox	5
Convulsions...	42	Liver	8	Stomach	5
Diarrhœa	25	Lungs	6	Teething	6
Dropsy	19	Measles	23	Typhus	46
Erysipelas ...	6	Paralysis	11	Uterus	9

BIRTHS AND DEATHS.

	Births.	Deaths.	Births over Deaths.
Males	696	461	235
Females	715	432	283
Total......	1413	893	520

METEOROLOGY OF THE WEEK.

Day.	Mean of Barometer.	Mean of Thermometer. Dry.	Ditto. Dew Point.	Difference between the Mean Temperature of the day and the same day on an average of 7 years.	General Direction of Wind. A.M.	General Direction of Wind. P.M.	Amount of Horizontal Movement of the Air.	Rain in Inches.	Electricity.*
Sunday	29·027	[illegible]	48·0	+ 4·3	N.E.	E.	Miles. 55	0·07	Nothing.
Monday	29·085	46·8	37·6	+ 0·5	S.S.W.	S.W.	125	0·00	P. and tension strong.
Tuesday	29·533	43·7	34·5	− 3·6	S.W.	S.S.W.	118	0·00	P. & tension strong between noon & 3 p.m.
Wednesday	29·915	47·8	44·0	+ 1·0	S.W.	W.½ W.	365	0·08	Nothing.
Thursday ...	30·191	56·5	51·9	+ 10·3	W.S.W.	S.W.	43	0·00	Nothing.
Friday	30·217	53·6	47·8	+ 7·6	S.S.W.	S.S.W.	125	0·00	Nothing.
Saturday ...	30·155	52·6	47·2	+ 6·9	W.S.W.	S.	96	0·00	Nothing.
Means ...	29·782	50·2	44·3	+ 4·1	S.W.		SUM 950	SUM 0·15	

* In this Column, A. stands for Active; N. for Negative; and P. for Positive.

MEDICAL NEWS.

Royal College of Surgeons.—The following gentlemen having undergone the necessary Examinations for the Diploma, were admitted Members of the College, at the meeting of the Court of Examiners on the 9th inst:—Messrs. Alexander Williams, Army; Ralph Holt Kaye, Ratcliff Bridge, Lancashire; John Robinson, Medhurst, Sussex; James Howell, St. Clare, Carmarthenshire; Henry Nuttall, Syston, Leicestershire; Thomas John Warburton, Betley, Staffordshire; George Peat Dunn, Ledbury, Herefordshire; Walter Hook Bolton, Carrickmines, County Dublin; George Fowler Bodington, South Colfield, Warwickshire; and William Bratt, Stratford-on-Avon. At the same meeting of the Court, Mr. William Newman Brake passed his examination for Naval Surgeon. This gentleman had previously been admitted a member of the College, his Diploma bearing date May 16, 1844.

Obituary.—On the 4th inst., at Brinklow, near Coventry, Francis Allcock Oldaker, Esq., surgeon, aged 80.

The Royal Medical and Chirurgical Society.—The first meeting of this society for the present session was held on Tuesday evening, the President, Dr. Addison, in the chair. We have seldom seen a more numerous muster of Fellows and visitors. The room was crowded, and extra seats were of necessity sent for. Among the Fellows present, we noticed Drs. C. J. B. Williams, Locock, Wilson, Baly, Gregory, Webster, Burrows, Bashum, and Sibson; and Messrs. Arnott, Coulson, Fergusson, B. Phillips, Skey, Le Gros Clark, Shaw, Toynbee, C. de Morgan, Curling, Hilton, Wade, and R. Quain. There were upwards of one hundred persons in the room. The ordinary business for the evening included the election to the Fellowship of Drs. Fincham and Gull, and Messrs. White and Hansard. The door-posts were as usual ornamented with framed sheets of foolscap, on one of which were the titles of papers already received for reading. On the other side, the broad sheet gave the names of nine defaulters to the fund,—a proceeding which so rich a Society would do well to dispense with. If a member cannot afford the fee, he had better resign; if he does not, after the lapse of a certain time, the Council should have the power quietly to remove his name from the list of Fellows; but to gibbet him thus *in terrorem*, as it were, like the pirates at Blackwall, lest there should be other *pecuniary offenders*, is neither wise, nor becoming a Society of Professional gentlemen. The paper read at the meeting was—"The History of a Case of a Foreign Body in the Right Bronchus. By John Gregory Forbes, M.R.C.S., Surgeon to the Western General Dispensary." We shall give an abstract of this interesting case next week, and at the same time report the discussion which ensued after it had been read.

Royal Free Hospital.—Dr. Heale has been elected Physician to this Hospital in the room of Dr. Peacock, resigned.

Indian News.—Physician-General Patch has retired from the service. Dr. Burnes, K.H., is now head member of the Medical Board, the second and third being Drs. Sinclair and Montgomery. Dr. Rost, resident surgeon at Bagdad, died on the 19th of June last. In several of the stations much sickness had prevailed. At Wyzerabad upwards of twenty Europeans had been struck down by apoplexy on the 13th of August; at Mooltan almost all the Europeans were suffering from fever. The cold weather was, however, setting in, and the sickness was decreasing.

The Late Dr. A. T. Thomson's Museum.—We understand that the great botanical and pharmaceutical collection of the late Dr. Anthony Todd Thomson has been purchased by the President and Council of Queen's College, Cork. Dr. A. T. Thomson was the able Professor of Materia Medica at University College; and it is a subject of great regret that the directors of that Institution did not think it advisable to append, as an heir-loom to the Chair, the valuable collection of their first Professor, to whose memory a "Thomsonian Museum" would have been no undue monument. The collection, however, has not fallen into unworthy hands. Dr. Fleming, one of the editors of the *Monthly Medical Journal*, is the newly appointed Professor of Materia Medica at Queen's College, Cork, and than whom none can do more justice to the treasures placed at his command.

Cholera.—At the sitting of the Communal Council of Brussels, on the 10th instant, a Report on the progress of cholera in Belgium was read, from which it appeared that the epidemic commenced on the 24th of April, and ceased on the 27th of October. The number of cases amounted to 1244, of which 1013 proved fatal, 931 of these being resident, 17 military, 15 prisoners, and 50 foreigners. Notwithstanding the awful mortality, which was above the rate of 80 per cent., high commendations were passed on the medical men, the officers of police, the sisters of charity, the clergy, &c., for their indefatigable exertions, and it was decided that a medal should be struck, and presented to each individual, as a souvenir of their eminent services. Shall England always be the last in the race of gratitude for such services? Shame on her! her ingratitude is disgraceful to her in every way. France and Prussia have emulated the conduct of Belgium. Here, alone, there are not any honorary rewards for those who exert themselves in the cause of humanity. Poor Walker's widow had a gratuity of 70*l.*; for Lynch's, family the public were appealed to. Our Government do nothing in such cases; not a medal or sign of honour for any of those who risked their lives and those of their families in rendering professional assistance to the sick and dying.

Dr. Brittan.—It is reported that Dr. Brittan, of Bristol, whose discoveries respecting the cholera sporules have been the subject of so much attention of late, has been appointed an inspector by the Board of Health for two months, at a salary of 3*l.* per diem, and travelling expenses. The Board, it is added, has requested him to continue his microscopic inquiries respecting the fungoid origin of cholera. We hear that it is not improbable that he will be gazetted to some permanent appointment in connexion with the public health.

Cholera.—The *Western Times* of Nov. 3, states, that during the previous Friday night, several persons in Union-street and Eastover, Bridgewater, were attacked with cholera, and fifteen of them died in forty-eight hours. Union-street is one of the great strong holds of filth—flat, ill-drained, and surrounded by stagnant ditches.

Alleged Death from Chloroform.—A Coroner's inquest was held at Leeds on the 25th of last month, on the body of Robert Mitchell, who, previously to his death, had a severe attack of delirium tremens, brought on by drinking. The man was attended by Mr. J. Teale, surgeon, who, in consequence of the failure of other remedies to alleviate the disease, caused the patient to inhale chloroform. He was at this time in a furious delirium, and, supposing a neighbour robbing him, ran out of the house to a place at some distance, where he said the thief resided. He was brought back in a coach with Mr.

Teale, who administered chloroform after the patient was placed in bed. A teaspoonful of the anæsthetic was poured on a folded napkin and gradually applied to the nose and mouth. The pulse at first improved, and the patient was perfectly tranquil, but after a short time he became extremely violent. Chloroform was administered a second time, in the same quantity, and with the same results; and in an hour and a half afterwards the patient expired. The jury returned a verdict, that death had been caused by delirium tremens, and that no blame whatever was attached to Mr. Teale. The surgeons who examined the body, were of opinion that the man died under a combination of delirium tremens and the fumes of choloroform.

Re-appearance of the Cholera at Gloucester.—A respectable family in this town has been attacked with cholera during the last week, and four have died. We do not hear, however, that any other persons have been seized.

Chest Diseases Hospital.—A meeting was held last week in the Board-room of the City of London Hospital for Diseases of the Chest, when it was stated, that nearly 4,700 patients had been treated for diseases of the heart and lungs since the opening of the Institution in June, 1848. The Secretary reported the receipt of the munificent donation of 100*l.* from the Earl of Onslow. Dr. J. Risden Bennett was appointed Physician in the vacancy occasioned by the lamentable death of Dr. Allen Williams, and Mr. John Hilton, surgeon, in that occasioned by the resignation of Mr. Erichsen. Dr. Birkett has also been elected Physician, as a requisite addition to the medical staff.

Health of Towns' Act.—At Ilfracombe, Mr. Jones, a surgeon, and at Teignmouth, three other medical men, named Drs. Richards, Bartlett, and Cartwright, have been among the most strenuous opponents of the introduction of the Health of Towns' Act in those places. Such conduct is not common: medical men, generally speaking, are desirous to do all in their power for the prevention of disease. Ilfracombe is said to be in great want of drainage. Mr. Jones met with a worthy coadjutor in his opposition to the scheme for improvement. A voluntary rate of 4d. in the pound having been proposed to effect the drainage, farmer Parkin called out, "I tell'ee how to do it for wan quarter o' the money Jist do' away wi' yer gas, and git an ingin, that'll pump the watter up to the highest mountain about here, and then pour it down over, and that'll wash the town clean enough." The same worthy said, "I consider that avery man that 'eth got a houze, ought to wash 'es own vore door." And to such hands, in some places at least, is the health of Englishmen entrusted!

Fatal Result of French Etiquette.—"Internes," or hospital house-surgeons, are not permitted to operate during the absence of their chiefs. The consequences of this species of etiquette was curiously illustrated a few days since, in a case which has excited considerable discussion. A poor woman died of typhoid fever in the upper wards of the Hôtel Dieu. She was in the 30th or 31st week of her pregnancy, and the heart of the fœtus could be distinctly heard beating, on the application of the stethoscope. As the disease of the patient had occurred during the night, the *interne* on duty immediately applied to the Director of the hospital for permission to operate, and thus endeavour to save the life of the fœtus. The Director refused, on the ground of a standing rule, "which forbids any dresser to operate in the absence of his chief, unless the assistance of a regular doctor can be obtained." The chance of saving a human life was thus sacrificed to a point of etiquette and the strict interpretation of an obsolete rule.

Mesmerism at Rome.—The absence of His Holiness from Rome appears to have offered a vacancy in the art of miracle-mongering, which has been seized upon by the mesmerizers; but their triumph has been of short duration, as might have been easily foreseen. At Rome it is sacrilege for any one, save a priest, to work a miracle. This fact seems to have escaped the sagacity of M. Lafontaine, an authority among the mesmerisers, who recently visited the "holy City," and there opened shop on his own account. At a meeting, attended as we are informed (in letters from Rome) by all the Medical men of eminence in "modern Babylon," M. Lafontaine injected the mesmeric fluid into the ears of two young deaf and dumb persons, who immediately recovered the faculty of hearing! For his pains he received a pressing invitation to betake himself elsewhere, proving the truth of the old adage, that two of a trade can never agree.

French Academies.—We agree with our contemporary, the *Literary Gazette*, that few English readers are acquainted with the constitution of the French Academies, which we avail ourselves of its foreign correspondent to explain. The Academies are five in number, and collectively form what is called "the Institut," that learned body to which Lord Brougham is so proud of belonging, that he always tacks "Membre de l'Institut" to his name on the title-pages of his pamphlets. Each Academy is independent, and has its own separate revenue; but all five have the same agency, secretaryship, library, museums, and collections. The five Academics are—1, The *Académie Française*, consisting of forty members, who are specially charged with the composition of the dictionary of the French language, and with the examination of important works in literature, history, and science; 2, The *Académie des Inscription et Belles Lettres*, consisting of forty members, who occupy themselves with the learned languages, antiquities, monuments, history, and particularly with the translation of Greek, Latin, and Oriental writers whose works may not have been translated into French; 3. The *Académie des Sciences*, of sixty-three members and two secretaries, devoted to the different mathematical and physical sciences; 4. The *Académie des Beaux Arts*, forty members, devoted to painting, sculpture, architecture, engraving, and music; 5. The *Académie des Sciences Morales et Politiques*, thirty members, who occupy themselves with philosophy, morals, legislation, public law, jurisprudence, political economy, statistics, and general history.

Carlisle.—A very important Report on the state of the Asylum at Dunstan Lodge was presented lately to the magistrates sitting in County Sessions at Carlisle. The Committee, after recording that the Asylum was in a very satisfactory state, observed, that their attention was particularly directed to four cases, three of which were of a very serious nature. The first was that of a female, sent from Carlisle, in a high state of fever, which assumed the character of typhus, who was so ill as to require to be carried from the station to the Asylum. She survived her removal only nine days,—death, according to the medical men, being hastened by such removal. The Committee, in speaking of this case, condemn the recklessness of sending a patient under such circumstances by a railway train, thereby running the risk of spreading infection to other passengers, as well as of introducing fever into the Asylum. The iniquity of the proceeding to the poor patient herself might also have been reprehended, with justice, by the Committee. The next case was that of a man, who had been confined to his bed for nearly twelve months previously, from which he was taken to be removed to the Asylum early in last March, (a most unfit time of the year for such a removal,) where he died in fourteen days. The third case was that of a female far advanced in pregnancy, who died on the eighth day after her arrival at the Asylum, having given birth to a dead child the day before. On these cases the Committee remark as follows:—

"Your Committee cannot consider these as fit objects to be sent to an Asylum. There is too much reason to fear that, in all these cases, death was accelerated by the removal; and the cruelty of sending persons, under such extreme circumstances, merits the severest reprehension.

"As your Committee, on a former occasion, felt obliged to notice the great impropriety of removing persons while suffering under severe and acute sickness, they trusted that no repetition of such proceeding would again take place, and that magistrates, as well as medical men, on signing the necessary certificates of admission, would, previously to removal, ascertain, not only the mental, but also the bodily health of the patients.

"The attention of the Visitors, as well as of the Commissioners in Lunacy, having been drawn to these cases, your Committee felt themselves called upon to take some decisive steps to prevent, if possible, a repetition of proceedings so reckless, as well as so needlessly expensive to parishes.

"They, therefore, avail themselves of the present opportunity to make it publicly known to all concerned, by means of this Report, that, in any future case of removal to the Asylum, where the patient is suffering under acute bodily sickness, or disease, which may tend by such removal to cause death, *and such shall take place*,—that they have directed Mr. Wilkinson to call upon the Coroner to hold an inquest on the body of such patient; and, should the verdict be unfavourable, the parties accessory to such removal must abide the consequences thereof.

"And that any person signing a certificate of insanity (as a medical man) who is not authorised to do so under the Act of 8 & 9 Vic., is guilty of a *misdemeanour*, and will be proceeded against accordingly."

TO CORRESPONDENTS.

Dr. John Taylor, Huddersfield."—We have received Dr. Taylor's Essay on the Treatment of Pericarditis. Dr. T. shall have the proof and MS. by post, as soon as the former is struck off. The MS. is already in the hands of the printer. It gives us infinite satisfaction to have the power afforded us of laying before our readers a contribution to practical medicine of such rare sterling worth. One of our highest aspirations as a Journalist is to be permitted to aid medicine in advancing to her place as an inductive science.

A Correspondent" inquires our opinion of the portrait of John Hunter, lately published. We have not yet received it.

Our Hampstead Correspondent must stand over till next week, when we hope to obtain the information he requires.

Dr. Kidd's" communication from Paris has been received, and shall have early insertion.

"B. B." inquires the probability of the "Cyclopædia of Practical Surgery" ever being completed. We understand that Mr. Costello has made arrangements to complete the work. Part No. XII. is the last fasciculus published. We do not know when Part XIII. will appear.

Dr. C. W. Bell, of Manchester," lately read before the Devon and Exeter Pathological Society, an excellent paper "on the present Epidemic," which we hope to publish in an early Number. The extensive experience of Dr. C. W. Bell in the treatment of cholera, acquired while he held the appointment of Physician to the British Embassy at the Court of Persia, renders anything coming from him upon the subject worthy of the utmost consideration.

"X. Y. Z.," wishes to know what situations are in the gift of the Government for medical men. A guide to Government situations has been, we believe, lately published, and to this we must refer our correspondent.

"Our Correspondent at Brighton" will receive a private note. We fear the M.S. in question is mislaid.

"Dr. Sheridan Muspratt on the Blowpipe" will shortly be reviewed. If we simply *noticed* works we might press many into each number of our Journal; but as we really wish to *review*, and to inform our readers of the contents and value of a book, we cannot get on so fast as our correspondent seems to wish.

"Mr. Bulley's" case of urinary calculus removed by a solvent will be acceptable.

"Mr. Annan, of Kinross," on "Sympathy," shall receive our earliest attention.

"One of our Readers" is informed that we are in treaty upon the subject.

"Mr. M'Clure's" Paper—"The History of the Cholera and House Visitation, at Torpoint, Devon,"—has been received, and will be published as soon as our space will permit. Mr. M'Clure, who is a naval surgeon, was the first to volunteer for civil duties, when a want of medical men obliged the Plymouth authorities to apply to Captain Nicolas, the Superintendent of the Naval Hospital, for assistance at the first outbreak of cholera in that neighbourhood. He effectually carried out the system of house visitation, and his very interesting paper gives us the result of his labours, which have been acknowledged in grateful terms by the authorities.

"Mr. D. G. Carpenter" asks if a person vaccinated can have as a consequence of that vaccination more vaccine vesicles than he has had charged points inserted? Certainly not; he may have vesicles on other parts of the body, but they will not be identical in structure with those which result from the insertion of the lymph.

"Carvacrol."—The correspondent who asks for a formula for preparing Carvacrol is referred to the "Medical Times," for Jan 8, 1848, No. 432. We may briefly state, however, that it may be obtained by distilling the Ol. Carui with hydrated phosphoric acid, from which the Carvacrol separates itself in the form of an oil.

"Studens" inquires about the Polariscope, asking what it is, and where it can be procured. The Polariscope is a glass tube employed to determine the quantity of saccharine matter contained in urine or any other fluid, by causing a ray of linearly polarised light to traverse it by fixing to its extremity either a Nichol's prism, or a crystal of double refracting power, as a Tourmaline cut parallel to its axis. Dr Bushnan has described the instrument in the "Medical Times," for March 25, 1848, Dr. Golding Bird in his "Urinary Deposits," and M. Bouchardat in the "Repertoire Generale des Sciences Medicales," Vol. XVIII. The instrument, which we believe is only made in Paris, we have seen but once, and then in Germany. We will apply to our French Correspondent for further information on the subject.

"A Young Comparative Anatomist" asks, who first described the respiratory and motiferous nervous columns in insects? We believe Lyonet, upwards of eighty years ago

"A. B. C." proposes to send us a drawing of an acephalous fœtus We decline his polite offer with many thanks, acephalous fœtusses being abundantly well known.

The paper "On Life" is respectfully declined. Our correspondent is not the only writer who, in modern times, has represented heat as a part of the principle of life. The error consists in mistaking a necessary condition of life for life itself.

"Mr. Francis, of Faversham," complains of the irregularity in the publication of Mr. Wardrop's work on diseases of the heart. The work will be concluded with the present volume.

Thursday being a *dies non*, we were obliged to go earlier than usual to press, and thus many of our correspondents must remain unanswered until next week. Mr. R. G. Couch, of Penzance, Mr Cave Brown, of Tamworth, Dr. Tripe, Dr. Bulley, Mr. Leithead, Mr. Moyle, Mr. Mair, Mr. Walton, and many others, must accept our apologies, and the reason we have assigned for delay

ORIGINAL LECTURES.

HUNTERIAN LECTURES.

ON THE

GENERATION AND DEVELOPMENT OF THE INVERTEBRATED ANIMALS.

By RICHARD OWEN, F R S,
Hunterian Professor and Curator of Museum of Royal College of Surgeons, Corresponding Member of the Institute of France, &c

[Reported expressly for the "Medical Times," and revised by the Lecturer]

LECTURE XIII.

GENERATION OF INSECTA —General characters of the class and of its primary divisions and orders —All the species diœcious —Generative system of the Myriapoda —Vesicular testes and ladder like anastomoses of the two vasa deferentia in the Iulidæ advanced position of termination of sperm-ducts —Male organs of Centipedes —The single ovarium with single oviducts in Centipedes and the two oviducts in Iulus —Spermathecæ and colleteria —Development of embryo —Hexapod larva and their metamorphoses by multiplication of segments and joints —Affinities and place in the Articulate Series of the Myriapoda deduced from their development and metamorphoses

MR PRESIDENT AND GENTLEMEN,—The articulated animals with one pair of jointed antennæ and with jointed limbs, which respire air by stigmata and tracheæ, constitute the vast class of invertebrate animals, called "*Insecta*"

The common or typical number of articulated legs in this class is six disposed in three pairs developed exclusively from the thorax. In the Crustacea we saw that the number was greater, and that the limbs were developed from the abdominal as well as from the thoracic segments of the trunk Such is the case also with the Myriapodous insects; but these breathe the air directly by means of tracheæ, not by gills, and they have only one pair of antennæ they likewise manifest as we shall find, the typical hexapod character in their larval state,—a period during which, as in the Cirripeds, Epizoa, and Acalephæ the Myriapod shows more of its true nature and is more in accordance with the common type than during its final and oviparous stage

Taking, however, a survey of the tracheal air-breathing Articulata under their mature condition, they present more important characters in common, than any which indicate an affinity to the gill bearing classes, and we find them offering the same ground for a primary division as the Crustacea did, viz, in the number of the segments of the body

This number is constant and definite in the higher and typical members of the group, in which it is neither more nor less than *thirteen* in the rest it exceeds thirteen, and is variable

The thirteen jointed insects have one joint for the head, three for the thorax, and the rest for the abdomen, and, as the thoracic segments alone develope jointed limbs, this primary division or sub class of Insecta might be called *Hexapoda*

There is no distinction between thorax and abdomen in the indefinitely jointed division, and as all the segments save the first and last support jointed limbs, this sub-class is termed *Myriapoda* The Myriapoda I regard as a group equivalent to the Entomostraca, and, like them, they are the lowest organized, and the least numerous and varied of the two divisions of their primary group They are divided according to modifications of the mouth into *Chilognatha* and *Chilopoda*, answering to the genera *Iulus* and *Scolopendra* of Linnæus who first detected these natural divisions

The Hexapod insects may be classified.—

1st According to the phenomena of their development.

2nd. According to the structure of their mouths, or,

3rd. According to the nature of their wings

Agreeably with the first character, they would be divided into,—

Ametabola, or those that undergo no metamorphosis.

Hemimetabola, or those that undergo a partial metamorphosis; and

Metabola, or those that undergo a complete metamorphosis.

According to the modifications of the Trophi, instrumenta cibaria, or oral organs, the Hexapod insects are divisible, like the myriapods, into two groups, viz, the *Haustellata* or suckers, and the *Mandibulata*, or chewers and biters.

But this binary division is insufficient for the general propositions which the comparative anatomist has to enunciate, and I take, therefore, the third kind of characters, the value of which was first fully discerned by Linnæus, viz, that founded upon the organs of flight. Those Hexapod insects which are devoid of wings are called *Aptera*, those with two wings only, are the *Diptera* All the rest have four wings The *Lepidoptera* have four scaly wings, the *Hymenoptera* have four veined wings, crossing each other when at rest, the *Hemiptera* have one pair of wings partially thickened, and called hemelytra, the *Orthoptera* have one pair of wings wholly thickened, the other folded length wise; the *Coleoptera* have one pair wholly and much thickened called elytra, and the other pair folded cross-wise, the *Neuroptera* have four reticulated wings, the *Strepsiptera* have one pair of wings rudimental and curled up In the *Aphaniptera* both pairs are rudimental and functionless as wings Of these orders, the first five are "haustellate" the remaining four are "mandibulate" The Aptera are ametabolian, the Hemiptera and Orrhoptera are hemimetabolian, the remaining orders are "metabolian" These characters, therefore, briefly and succinctly express the highest generalizations, as yet reached, relative to the Hexapod Insecta

I have said, that the Hexapods have thirteenth segments, but, in the last stage of the metabolian orders one, two, or three segments may become blended together, and again, although we reckon the head as a single segment, the number of jointed appendages which it supports, under the name of antennæ, mandibulæ maxillæ, palpi, &c, indicates that here as in the Crustacea it consists essentially of several coalesced segments

With regard to the orders of the Myriapoda I may remark that the *Chilognatha* have two biarticulate mandibles, without palpi armed with imbricated teeth planted in a cavity at the upper extremity of the mandible, they have also a kind of lip situated immediately beneath and covering the mandibles, notched into four divisions, and answering to the two pairs of maxillæ of the Crustacea, whence the name from the Greek, signifying "feeding by jaws The Iulus or Gally worm is a type of this order The *Chilopoda* have the mouth composed of two mandibles with a small palp, a quadrifid lip, also the homologue of the crustaceous maxillæ confluent, two labial palpi hooked at the tip, and a second pair of jaws or foot jaws —the obvious homotypes of feet—terminated by a strong hook moveable and pierced beneath the extremity by a poison duct The Centipede (*Scolopendra*) is the type of this order of Myriapods, which "feed by feet"

All Insecta are diœcious In most the sexes are distinguished by external characters; these, however, are least conspicuous in the Myriapoda, but the external outlets of the generative organs of the male are, in the Chilognatha, as in many Crustacea, situated on a segment posterior to that which is perforated by the generative organs in the female.

In the male Gally-worm (*Iulus terrestris*), the testis consists of minute cœca appended, for the most part alternately, to the sides of a long efferent tube there are two of these on each side, which, commencing in the posterior fourth of the body, advance forwards, and unite on each side so as to form a pair of tubes; the cœcal glands continue to be developed, but in smaller number, each from one side principally of each of the common tubes. These tubes then approximate, communicate together by three or more transverse canals, and, after a slight bend or convolution, extend straight forward to the sternal arc of the seventh segment of the trunk, where they terminate by distinct orifices behind the seventh pair of legs.

The structure of the spermatic organ is so similar to that of the longitudinal tubes, that the secreting function is doubtless exercised by both parts; they consist of a thick mucous coat, with an external muscular tunic, they are situated beneath, or ventrad of, the alimentary canal, and between the two large salivary vessels. In the Crustacea the testes are dorsad of the alimentary canal, and their ducts external to the glandular appendages of that canal.

The transverse anastomosing canals, between the right and left testes, reminds one of the single transverse communication between the two testes in the lobster and in the crawfish, but this character is so multiplied—Mr. Newport having found more than twenty such transverse canals in one species of Iulus—that the testes offer no unapt resemblance to a ladder. In a large species the same laborious and eminent entomotomist discovered that the semicorneous intromittent organ was defended by an uncinated valve, serving as a holder or clasper.

The contents of the testes are a clear fluid at the hinder beginning of the organs, but it becomes thick and more opaque as the outlets are approached. The change is due to the appearance of numerous sperm cells, 1 450th of a line in diameter, with a highly refracting nucleus 1 750th of a line in diameter, lying close to the cell-wall. In the progress of development the nucleus enlarges and becomes conical, the apex protruding from the surface of the cell, which finally dissolves and leaves the nucleus free This is the spermatozoon its breadth always exceeds its height or length

In the *Iulus fabulosus* the cell-wall becomes enlarged at the part opposite to the nucleus, and produces there a similar nuclear body the whole thus appears like two of the spermatozoa of the *Iulus terrestris*, with their broad bases turned towards and touching each other

For these observations on the development and singular form of the spermatozoa of the Chilognatha, we are indebted chiefly to the labours of Siebold and Wagner

In the *Chilopoda* the generative organs terminate at the anal segment of the body, not, as in the Chilognatha, near the fore part of the body.

In the Scolopendra the male organs are more complex, and resemble those of insects The testes of the *Scolopendra morsitans* are seven in number, and closely packed in parallel lines, each testis is composed of two parts, fusiform and precisely similar to each other in mutual contact, but easily separable From each extremity of the fusiform testis arises a narrow duct, so that there are fourteen pairs of ducts arising from the fourteen secreting organs Each of the testicular bodies is hollow internally The ducts ultimately end in a common tube which soon becomes enlarged and tortuous, terminating by a simple aperture near the anus Just prior to its termination, the enlarged canal receives five accessory glands, four of which are intimately united, until unravelled, while the fifth is a simple cæcum of considerable length The sexual outlet is situate near the anus

There is very great diversity in the structure of the male organs in the different genera of Myriapoda

In the *Scutigera*, according to Leon Dufour, the testes are two fusiform organs with a duct continued from each extremity, those from the upper end anastomose together, and a long and slender canal is continued from the middle of the arch, which, after a certain course, becomes disposed in a series of progressively increasing transverse folds, and finally divides into two terminal slender pyriform sacs. These Leon Dufour regards as accessory vesicles The sperm ducts continued from the lower ends of the fusiform testes bend upward upon themselves, and dilate into reservoirs called "sper-

mathecæ," similar in size and shape to the testes themselves, and each of these terminate separately upon the anal segment.

The fusiform testes have many small pouches or diverticula produced from their outer side. In the genus *Lithobius* the testes are fusiform, but free at their upper pointed ends, and they are everywhere beset with numerous subspherical or graniform secerning follicles. Three long blind tubes—accessory glands—communicate with the proper sperm-ducts; the common opening being, as in other Chilopoda, at the terminal segment. Treviranus speaks of a small fleshy corneous penis in the Lithobius.

With regard to the female organs of the Myriapoda. In the *Iulus terrestris*, the ovarium is a simple elongated sac, with the exterior surface nodulated by sacculi; the larger ones, of uniform size, being arranged in a double series. The ova are developed and completed in these sacculi, one in each; the germinal vesicle here is surrounded by the yolk and vitelline membrane; upon this is laid the thin layer of albumen and the corion before it passes into the common oviduct. The ova in the earlier phase of development form small projections at the interspaces of the larger and more regularly-sized ovisacs containing the more mature ova. The common elongated sac extends from the anal segment forward to near the fourth segment, where it divides, and the two vulvæ are situated on that segment behind the second pair of legs. The ovarian tube is situated beneath the alimentary canal; not above it, as in the Crustacea. If the male apertures on the seventh segment indicate, by the analogy of the Crustacea, the hinder boundaries of the thorax, we see that the more advanced position of the female apertures keeps up that analogy. Another interesting analogy presents itself in the double aperture of the generative outlets and the double intromittent or clasping organs in the male *Iulidæ*. I allude to the serpent tribe, which these Articulata resemble in their length, and slenderness, and tortuous movements; for the serpents alone, amongst vertebrata, present the double termination of the generative ducts and the double unciform claspers.

In the *Lithobius forficatus*, the ovarium, a single elongated blind sac, extends from the anal segment to near the middle of the body, and is supported by the tracheal capillaries. It is beset by numerous subpedunculate unilocular bursæ, each containing a white globular ovum. These give a granular aspect to the exterior of the ovarian tube: which tube, Léon Dufour suspects to be naturally divided by a median longitudinal septum.

On each side of the termination of the ovarian tube is a racemose colleterium, consisting each of two rows of granular utricules: a common duct and reservoir communicates with the oviduct.

On the interesting subject of the development of the Myriapoda, some important facts were early recorded relative to the metamorphoses of the Iulidæ by Degeer and Savi; and their generation has been very ably and minutely worked out by Mr. Newport, whose valuable memoir on the subject has been published in the Philosophical Transactions for the year 1841.

The *Iulus terrestris* hibernates from October to March; the female is probably impregnated prior to hybernation, for her first act, after awakening from the long winter-sleep, is to prepare to disembarrass herself of the load of impregnated ova; the act of oviposition is generally over by the month of May. She previously excavates a special nidamental cavity in the soil, and is careful to place the eggs where no access of light, and only a certain degree of moisture, can affect them. In this process she bores the soil about an inch in depth, just wide enough to admit her own body, and then excavates a circular cavity by removing the soil, pellet by pellet, the earth being made up into a little pill by mixture with her saliva; she withdraws herself backwards from her hole, bringing up the pellet, which is held between her bent-down head and the first pair of legs: it is then passed backwards to the second pair, which transfers it to the next in succession, and so onwards, until it is removed quite out of the way. When, by the repetition of this manœuvre, the egg-chamber is completed, oviposition takes place, and the entry to the chamber is carefully closed by earth thoroughly moistened, so as to form a thick paste, which she gently presses into the entrance, and fills up nearly to a level with the surface of the soil. Thus protecting the eggs from enemies that would devour them, or from the atmosphere and light which might decompose them. In this operation we may perceive that the large salivary glands have a function analogous to that of the silk glands of the *Bombyx mori*.

In the fresh-laid egg the chorion is transparent, but it soon becomes opaque, soon dries and shrivels when exposed to the air. The first period of development occupies about twenty-five days, when the chorion is ruptured, the egg previously augmenting in size and becoming reniform. The embryo may be recognised about the twelfth day, but presents no trace of segments or limbs; it is bent upon itself. On the thirteenth or fourteenth day there is an indication of segments on the ventral aspect. On the eighteenth day the shell bursts along the dorsal surface, and on the twenty-fifth day the embryo protrudes, by the elastic quality of its body overcoming the compression to which its growth has subjected it; but the embryo is passive and motionless, and is still connected by a reflection of an amniotic covering upon the inner surface of the membrana vitelli, which connexion Mr. Newport calls the umbilicus." There is now a head and seven segments, and the antennæ may be seen budding from the sides of the head. The internal structure of the embryo is wholly cellular, with a cavity resulting from the coalescence and liquefaction of certain central cells. On the third day after exclusion the embryo is passive, motionless, and still attached to the shell by the funis-like duplicature of the amniotic covering, and it is protected by the two halves of the egg-shell, suggestive of an analogy to the entomostracous *Cypris*. The head, antennæ, and segments of the body are better marked; but the embryo is still apodal, though rudiments, or buds of thoracic limbs, now begin to be discernible. Some of the peripheral cells become pushed into these buds of limbs, making them obtuse prior to elongation. On the ninth day the funis is ruptured, and the alimentary canal completed; but other internal parts consist of cells of different sizes. On the tenth day the dorsal vessel betrays itself by its pulsations; it drives the colourless blood to the head, which now becomes corneous; the antennæ become clubbed, and now a simple ocellus may be distinctly seen on each side. On the seventeenth day the embryo leaves the debris of its shell: it presents definite segments, articulated antennæ, and three pairs of jointed legs; it is, in short, a hexapod larva. But by the next stage of progress it quits the high road of insect development to enter a bye-path of its own. New segments are formed from the penultimate or germinal segment; a remnant of the funis is converted into a rudimental anal spine. The amniotic covering and the rest of the funis are moulted.

The first spontaneous movements of the embryo are to burst and slip off the amnion, with the first integument, after which exertion the larva reposes, with slight occasional movements of the antennæ. We may now distinguish a prothorax, with eight other primary segments; six new segments have also been formed at the germinal space, but these are short, and collectively are only equal to one of the original segments. The new segments are not formed by a division of the old, but by gemmation from the penultimate segment at the germinal space. The primary three pairs of legs are developed from the second, third, and fifth primary segments. New pairs of limbs bud out from the sixth and seventh segments. The female apertures are perforated in the fourth segment; the male outlet is established at the seventh segment, when this is near the posterior end of the body of the larva.

The antennæ first begin to move, then the legs, and the first instinct of the locomotive larva is to shun the light. In this progression the anal segment is first expanded, and attaches itself to the firm surface; then the body is carried forwards, the motion being propagated from segment to segment. In the progress of growth these are successively added at the germinal space; the new segments being always produced beneath the common integument, which is afterwards moulted. These segments are added in a certain numerical ratio, six at a time, between the antepenultimate and the penultimate segments. Movements of the larva are always observed to be fettered by the approach of the ecdysis. All the limbs superadded to the primary three pairs are bifid; and these double legs are analogous to the prolegs of caterpillars. The further course of growth is attended with a more distinct definition of the segments; and by transverse indents of the primary segments. The limbs also become more straightened. The whole period of development occupies four or five weeks, and then development is superseded by the mere act of growth.

With regard to the Centipedes, we still need a series of researches to make us properly acquainted with their development. A French naturalist has recorded a series of researches on the genus Lithobius. This is a modified centipede, consisting of seventeen segments, and having fifteen pairs of extremities. In the month of May, the larva presents but ten joints and seven pairs of legs with two simple ocelli on each side of the head. Early in June, it had acquired twelve segments, and eight pairs of legs, and the head presented three ocelli on each side. Later on in the same month, the segments had increased to fifteen, and the legs to fifteen pairs, and the number of ocelli was eight; finally, two more segments were added, and the cluster of ocelli included twenty on each side. The chief distinction between the Lithobius and Iulus appears to be, that the successive joints are not developed, as in the Iulidæ, at the posterior part of the body, from one particular germinal space, but at the interspaces of the pre-existing segments.

With regard to the affinities of the Myriapoda as they are illustrated by the known phenomena of their development, we discover in the peculiarly localised power of superadding the additional joints in the Iulidæ, a marked analogy to the annellides; yet the appendages of the segments being distinctly jointed limbs, we have in these a well-marked character of the superiority of the Chilognatha. Then, in reference to the Crustacea, which the Myriapoda more resemble in their jointed antennæ and limbs, we perceive also an interesting additional analogy in the Chilognatha, in the circumstance of the organs of the generative apparatus not terminating in the homologous segments in the male and in the female; whilst in both they are situated nearer the anterior part of the body. But this crustaceous character disappears in the Chilopoda. And when we perceive that the first form of the articulated animal with jointed limbs, which the Myriapoda assume, is that of the hexapod insect, and further, that in departing from this type, the pair of limbs successively added in the Iulus are like those temporary ones in the caterpillars, of a different character from the primary six,—we cannot but derive from these facts a well-founded [illegible] in the importance of that character of the [illegible] system which led us, at the beginning, to [illegible] the Myriapoda with the Insecta rather than the Crustacea.

ORIGINAL CONTRIBUTIONS.

CONTINENTAL MEDICINE.

By Dr. KIDD.

Microscopical discoveries crowd on us from every quarter since Mr. Brittan's announcement. In fact, every one with a little time at his disposal, and so fortunate as to possess a microscope of tolerably respectable powers, has been seeing what one should, *à priori*, expect he would see, sundry of these cellular bodies, more or less developed, the offspring very possibly of merely accidental causes, and in no very prominent way connected with cholera.

Dr. Baly tells us he saw similar bodies—distinct parasitic fungi—so far back as 1844, at a time that dysentery prevailed very severely in Milbank Peni-

tentiary, and from his account it would appear, that those seen in cholera differ very little, except in being smaller in size, more flattened, and not so compound structurally as those observed in dysentery. He seems, I believe, to think the latter of extraneous origin, which may be doubtful; for, though bearing many resemblances to the Protococcus genus, they have not the usually well-defined outline of vegetable structures, and are more likely to be of a character more indigenous to the system itself.

Mr. Williams, of Swansea, as early as the 10th of July, of the present year, in the rice-water evacuations of cholera, discovered similar bodies, but made little of the matter—singular polygonal confervoid bodies; in the more advanced stages of the disease, these granulations constituting literally the entire of the solid matters of the discharge, and forming when dried an impalpable powder of very peculiar lightness.

On the Continent the thing is as old as the hills. At Berlin, when I was there, Boehm, who succeeded Dieffenbach, and others were examining the rice-water discharges with the microscope. Respecting the mucous membrane itself, the chief alteration observed, was an almost universal throwing off of epithelium cells, more especially about the lower part of the ilium, the stomach being less affected. In the rice-water evacuations, Boehm has seen all kinds of epithelium cells, and other cellular formations; but never dreamt—and your true Berlin man is a great dreamer)—of ascribing all the phenomena of cholera to such things. He found, too, a *fungoid production*, the same, I take it, at least nearly allied to the one now observed, but very properly looked on it as purely accidental. In France again, Donne noticed the existence of some microscopic products as early as April of the present year, and later still, A. Becquerel has examined the rice-water discharges under every possible shade of the disease. Andral first, perhaps, in France, noticed the presence of albumen in the filtered liquid, a point still further corroborated by Mialhe, and all have seen these cellular formations, and made nothing of them.

Becquerel arrived at some rather singular results. The matter held in solution in the rice-water vomited matter held a constant relation to the cellular matter held in mere admixture; the more of one, the more also of the other. In all his cases, the longer standing the disease the more of each. The vomited matter was generally *acid*; the proportion of chloride of sodium unusually great; but in every other way resembled, in its composition, ordinary serum of the blood. The fæcal evacuations, on the other hand, were alkaline, owing to ammoniacal salts, but differed in little else from the vomited matter. The serum of the blood itself was remarkably dense, abounding in fatty matters, due perhaps to absorption.

It was Mr. Shandy, the elder, I think, that prided himself in accounting for nothing like any body else, and at the present moment it appears something of a virtue to be able to do the same. The ancients, good easy people, put down everything very wonderful to Hercules; he it was that separated Ossa from Olympus and opened up the vale of Tempe. We, on the other hand, go into the opposite extreme; and the origin of a wide and wasting plague, like that now fading happily from among us, is sought to be explained by a set of invisible cells, that have as much to do with it perhaps as the aforesaid Hercules. That cholera, and fever, and some other diseases, have a peculiar elective affinity for decomposing matters abounding in fungi every one is aware, nay, that the presence of these fungi, in common with other bodies, and their transit, from place to place, saturated with certain specific principles, account, in a most wonderful way, for many of the apparently contradictory phenomena of the contagiousness or non-contagiousness of these diseases cannot be denied. These questions however, should be kept distinct and separate (in close reasoning on the subject) from the particular epidemic influence itself at work, and capable of being thus attracted. It would be a very meagre way of putting the matter, to say the north pole of a magnet was the south, because they are generally found together, or that a boarding-school and scarlet fever were one and the same, because of an old and traditional connexion existing in that direction also. We should be on our guard against jumping at once to conclusions. The microscope has more than once given to the world theories of doubtful paternity; the wish has been too often father to the thought, and thus retarded the interest of true science. If cholera have an affinity for decomposing matters, and every one that has studied the disease must say it has, this is clearly a different thing from considering the two, one and the same.

Dr. Cowdell, of Dorset, is another who has already "pronounced" on the subject. He, too, has seen cellular bodies—it would be, perhaps, a mystery and a wonder if he did not, in the complex organic mixture, the rice-water discharge. Nay, more, in the clammy sweat accompanying collapse, he has seen the same thing, the disjecta membra in each instance differing very little.

Mr. Brittan's account of the matter is plain enough, and, fully borne out as he is by Mr. Quekett, as to the fungoid character of what he has described, we may perhaps rest satisfied with the fact. Any one, however, who has had two minutes talk with the great histologist of Berlin, will not in any way wonder at such revelations. Myriads of these "shadows" of organic life perpetually floating about us everywhere, thick swarms settling ever and anon on the vegetable and animal worlds; nay, whole worlds of rocks made up of nothing else. Ehrenberg's all-animating microscope has, indeed, revealed to us matters in this way little short of the fabulous. A single inch of a particular German slate he has shown to consist of not less than forty thousand millions—a perfect firmament of minikin shells! In the depths of our present seas, as well as the tops of the highest mountains, uncounted myriads of analogous creatures existing in every point of space. Every visitor to Berlin must have seen these things till he has ceased to wonder. Th Protococcus, too, this particular genus about which, at present, such a noise is made, existing among even the snows of the polar regions, carried thither by evaporation, as well as in the depths of the ocean itself: like another Ariel,

"In the ooze of the salt deep
As well as upon the sharp wind of the north:"

Everywhere, in point of fact, that the microscope has looked for them. It is not to be wondered at, then, if we find them in our streams and rivers; in the atmosphere along their banks; in the water given to cholera patients, which they crave in such quantities; in ice; in the almost unchanged rice water discharges.

Among the crowd of things discovered in the rice water evacuations, I think we are entitled indeed to ask, Are not the cellular bodies under discussion purely accidental. Swayne tells us, in addition to them he has found a large number of crystals, triple phosphate and urate of ammonia, lithic acid itself, and oxalates. Lanza, of Naples, found almost invariably worms; Mr. Herapath, carbonate of ammonia, &c. Nay, Mr. Brittan himself says, that he has found them in different degrees of development, as though, I take it, they were passing harmlessly through the system; and, in the most rapidly fatal cases, where they have been perhaps destroyed, or the patient has had no water, he has not discovered them at all. In water condensed from the atmosphere of a sick ward, as in the polar snows already alluded to, they have been also found. That quantities of such bodies have been floating in the air there can be little doubt. The curious shower of black matter in Ireland, mentioned by my friend Dr. Barker, some of which he transmitted to Ehrenberg, was, I believe, of that character; and a more recent shower of distinct confervoid bodies in that country leave little doubt on the point.

The breaking out of cholera, generally, in low damp situations, connected for the most part with rivers; the facility with which it travels up and down their banks; the evaporation always going on in such situations, must make it ever a complex but not uninteresting question, What part the fungoid bodies under consideration play in the genesis of this frightful malady. A curious question would be, whether there is really any proportion between the amount of evaporation and the prolonged character of cholera, in any given locality. The mean annual amount of rain here in Paris, for instance, is, I believe, about 20 inches; in London, something about 25; in Geneva, 30; while, on the coast of India, it averages as high as 120; at Cuba, 140. That certain electric phenomena attend such changes should also not be forgotten. We must accumulate facts, not build up theories.

Sir James Murray says he has found magnets lose almost their entire power in the vicinity of grave-yards; and electric machines to be almost incapable of effecting the usual experiments. An old friend, Quetelet, of Brussels, has noticed a change in the electric relations of the atmosphere in Belgium during the late epidemic. The extraordinary experiments of Matteucci and of Heale, on the electrical currents traversing the circulation; some ingenious opinions which I have heard from Dr. Stevens, (who has done more, perhaps, for cholera than any man in Europe,) leave on my mind little doubt, that a disturbance of electricity is very intimately mixed up with the origin of cholera; and that in examining cells and fungoid productions like those of Brittain and Swayne, we are looking at *posterior* results in the chain of causation, if they are even that. All the phenomena of cholera, to my mind, are easily explicable by an interference or stoppage of the electrolysis going on in the system radiating from the cœliac axis,—isolated, according to the recent views of Heale, by the peritoneum. It is, of course, another thing whether this takes place, —we have neither proved it nor the contrary.

The study of terrestrial magnetism is, of all others, that carried on with most assiduity, at present, on the Continent and at home, with results, need I say, of the most wonderful kind. These results have been arrived at by multiplied observations. In animal and pathological electricity, on the other hand, we want observations; we want facts on which to build up our principles; we require the tabulated results of a set of observers without theories to uphold, before we get at anything like the isodynamic lines, the lemniscate and other singular peculiarities of magnetic force of our more industrious physical friends. The relations of electricity and light have lately startled the scientific world; those of electricity and disease are not less evident,—but still a chaos.

The singular experiments of Reichenbach, in Germany, among others, display the excessive sensitiveness of some persons to electrical currents. In many instances, in particular conditions, the placing a patient in bed east and west has produced the most remarkable phenomena,—as suddenly removed by changing the patients into the magnetic meridian. Some of his patients, again, he made so susceptible, that, in Church, looking towards the altar west and east, they became quite sick; recovering as quickly by changing to the transept north and south.

The tendency of cholera to the west belongs, perhaps, to this class of phenomena; more correctly, its trajet has been the diagonal of two forces,—the rotation of the earth from west to east in one direction, the magnetic poles the other. It is quite singular, indeed, the accuracy with which it has observed this course.

In the former visitation, Dr. Prout discovered a very perceptible change in the weight of the atmosphere all the time cholera was in London. Reid Clanny, Muller, of Petersburgh, and Adair Crawford observed similar phenomena, quite remarkable: the last mentioned, I think, that magnets lost their power, and the machine its action: to which we may add the apposite fact lately noticed by my excellent friend, Sir Alexander Downie,—the absence of cholera in the vicinity of the springs along the Rhine that give out carbonic acid gas. A few more facts of this kind, indeed, and some more magnetic observations, and some one to string them together, will do more for the history of our half naturalised plague than peering into the *adyta* of cucumbers for sunbeams.

Paris, Nov., 1849.

HOSPITAL REPORTS.

KING'S COLLEGE HOSPITAL.

DISEASED BREAST—HARE-LIP—HEY'S OPERATION—EXTRACTION OF URETHRAL CALCULUS.

Mr. Fergusson had several operations on Saturday last of an interesting character.

The first case brought into the theatre was a diseased breast. There were old sinuses running in various directions, which had existed for a long time, and which were of such a nature as to lead to the suspicion of carious bone. Mr. Fergusson ha carefully examined the case before in the wards, but could not detect any dead bone. As the sinuses however, did not evince any disposition to close and were in a callous condition, Mr. Fergusson determined to lay them freely open, which proceeding, besides facilitating the healing of the parts, allowed a free examination of the subjacent ribs. No carious bone was found, but in one or two places th periosteum was gone. During this exploration vessel bled copiously, but it was readily checked by pressing some lint firmly upon the spot from which the vessel sprung.

The next patient was a young infant, with a very bad hare-lip, accompanied with a protrusion of a portion of the alveolar process. The projecting part was removed by the cutting pliars, and the usual incisions for paring the edges were made, and the parts brought accurately together by the needles and twisted suture.

The next case was one of extreme interest, both on account of the history of the patient, and of the operation which was performed upon him. The patient was a French officer of Artillery, who had fought with the Hungarians during the late disastrous war of independence. It appears that, during the campaign, a portion of one of the feet had been carried away by a gun-shot, and, more over, mortification of both feet had taken place, and by these means the poor fellow had lost all hi toes. On the right side the parts had healed kindly, and there was a very good stump; but on the left foot union had not taken place, and nearly the entire metatarsal bone of the great toe was exposed and necrosed, and the soft parts around were in a morbid condition. In order to remedy this state of things, and for the purpose of forming an useful stump, Mr. Fergusson determined to put in force the operation of Hey, namely, removing the entire metatarsal bones from their articulation with the cuneiform and scaphoid bones. The operation was performed in the following manner:—A curved incision was made in front, over the apex of the stump, and the soft parts were dissected back; a similar incision and dissection was made behind; the articulations were then cut into in front, and the whole of the metatarsal bones removed. This proceeding was one of considerable difficulty, in consequence of the operator having no purchase for his left hand; but it was completed in a most able and effectual manner, and plenty of soft parts were left to cover the ends of the bones. After the operation Mr. Fergusson stated that he would not have removed so much of the bones, had there been sufficient integument to cover them; but, under the circumstances, he was obliged to remove the entire metatarsus.

The next and last case was also one of great interest. The subject of it had been under Mr. Fergusson's care some three or four years since in King's College Hospital for symptoms of stone in the bladder, and at that time he had operated upon him, and had removed a mass of calculi from the neck of the bladder; the patient recovered, and went out of the hospital; but Mr. Fergusson had occasionally, when passing a catheter for a stricture the patient subsequently laboured under, fancied that he could detect a portion of stone near the neck of the bladder. About a month ago, the patient was suddenly seized with an attack of extravasation of urine, for which he was again admitted into the Hospital, and from which he very nearly lost his life; but, under proper treatment, the application of free incisions, and the continued use of the catheter, the patient made a most excellent recovery; but a fragment of stone was discovered in th urethra, near the bulb, and as it was impossible to extract it in any other manner, Mr. Fergusson d termined to cut down to the urethra, through th perinæum, and extract it.

The patient being placed under the influence o chloroform, and in the position for lithotomy, short staff was introduced, until its point met wit the stone. An incision, about an inch in length, wa then made through the centre of the perinæum, upo it. A small scoop was then introduced through th wound, but the operator was unable to remove th calculus. A small pair of forceps were subsequentl introduced, but with a like result. Mr. Fergusso then carefully introduced his finger and thumb, and by this means, extracted a calculus exactly the siz and shape of a common clove, which sufficientl accounted for its eluding the grasp of the forceps The urethra and bladder were then carefully examine and no more calculi were found.

LONDON HOSPITAL.

Reported by Mr. ALONZO H. STOCKER.

GONORRHŒAL OPHTHALMIA.

Case 1.—John Rice, aged 23, shipwr ght, an of somewhat debilitated appearance, was admitted an in-patient under Mr. Curling, October 18, 1849 suffering from gonorrhœal ophthalmia.

On admission, the patient's eyelids were swollen and inflamed, so that he could not voluntarily sepa rate them, whilst from between there exuded a thick purulent discharge. The eyes have been closed fo three days.

On separating the lids the conjunctiva was found exceedingly inflamed, and the surface covered wit a prominent granular mass, in which the cornea wa imbedded

The interior of the eyelids were in a similar gran ular condition, whilst from the whole surface a thick muco-purulent fluid was secreted.

The eye generally is vascular, and there is grea intolerance of light; the iris is natural, and th pupils act properly.

Around the margin of the cornea, at its uppe part, superficial ulcerations were perceptible, and from these small vessels were observed radiating towards the centre.

Little or no pain was complained of, except upon he admission of light. Both eyes were similarly affected.

History.—The patient is single, and contracted gonorrhœa two months since, for which he sought advice at St. Bartholomew's Hospital, and obtained an injection. This he continued to use for about a month, when he was almost cured, a very slight discharge only remaining. At this time, having obtained some work, he ceased attending, and ne glected himself, the consequence of which was, that about a week afterwards the discharge re-appeared. He returned to the use of the injection, by which e again became relieved.

Ten days before his admission, his eyes became sore, the conjunctiva reddened, and accompanied with pricking and darting pains, and an increased ow of tears. He applied to a surgeon, of whom e obtained a collyrium; but, finding himself getting worse, he came to the Hospital, when he presented the condition above described.

Two or three days after the eyes became affected, the urethral discharge ceased, and has remained so ever since.

He was ordered full diet, and milk; ang. nit., v. gr.; aq. dest., ℥i., ter die utendum.

Oct. 19.—There is little or no constitutional disturbance. The eyes are much the same; if anything they are better.

21st.—Much better. The granular appearance has all but disappeared, one or two small spots being the only traces left. The conjunctiva is, however, extremely vascular. The purulent character of the discharge is replaced by a serous one. The swelling of the lids has entirely subsided, and there is greater tolerance of light, the patient being enabled to open the eyes to the full extent.

The ulcers on the cornea are almost gone, a mere speck indicating their existence.

To-day the patient complained, for the first time, of his right ankle, which, on examination, was found swollen and painful. He has had no sprain to account for it; but it has been gradually coming on for two or three days.

Hirud. vj. to be applied to it. Rep. guttæ.

23rd.—The patient still continues to improve; the vascularity is disappearing, and also the quantity of tears, whilst the man's sight is improving, being able to bear the diffused daylight without much pain.

25th.—The ankle being still very painful, hirud. vi. were applied, to be followed by warm flannels. Rep. guttæ oculi.

Nov. 7.—Since the 28th the patient has continued to improve; the ankle is much better, a little weakness only remaining. The eyes have now almost regained their natural appearance, but little vascularity remaining; whilst the patient can bear the ordinary light without any inconvenience. Small nebulæ alone remain, indicating the previous ulceration on the cornea.

On the 3rd the discharge from the urethra re-appeared. For this he was ordered P. cubibæ ʒj. ter die.; under which treatment the discharge has now almost ceased.

Nov. 13th.—Discharged, made an out-patient; the discharge from urethra having all but ceased, and the eyes restored to their normal condition, there being only a little weakness of them remaining.

Mr. Curling applied in his last three visits the stick of nitrate of silver to the still slightly granular condition of the lids.

INFLAMED BURSA.—ERYSIPELAS.

Case 2.—Thomas Blaisley, aged 36, labourer, applied as an out-patient to Mr. Critchett, Nov. 3rd, 1849. He states, that whilst coming out of a stable-door with a weight in his hand, he slipped, and fell upon his knees, on some small stone-paving, by which a small wound was produced, which penetrated the bursa, over the patella of the left knee.

The accident caused considerable pain; but, from the small and apparently trivial nature of the wound, the man followed his usual work,—a small piece of sticking-plaster alone being applied to the sore.

The next day the part became excessively tender, he pain being aggravated on walking, or otherwise moving the joint, whilst the parts around became swollen, and from the sore a thin purulent discharge as secreted.

This continued to increase until he applied here five days after the accident, when the knee was found considerably swollen and inflamed; inflammation of the bursa had been set up, which had proceeded on to suppuration—the matter oozing from the sore when a little pressure was made. For four or five inches, both above and below the knee, a high degree of erysipelatous inflammation extended, the joint being very tender and painful, especially at night, or on moving the limb.

He was ordered lot. argent. nitr. ℈j. ad ℥j. aq. dest., to be freely painted over the whole of the inflamed surface, night and morning, and to poultice he sore.

As the man was in other respects in a good state of health, no medicine was ordered.

Nov. 7th.—The man to-day is able to walk and bear pressure, without its giving any pain. The erysipelas has entirely disappeared, and there is little or no swelling or pain. The surface is blackened from the action of the nitrate of silver, and is beginning to desquamate, and the skin has a loose shrivelled appearance.

The swelling over the patella is much diminished, and the wound discharges freely. Rep. lot.

14th.—As the patient lives at some distance, and the knee has been very much better, the man has not applied since the 7th.

The knee is now quite well; the bursa does not discharge at all, and the superficial wound has healed; the cavity of the bursa having become apparently obliterated.

A small piece of plaster was applied, and the man discharged cured. This case is interesting as showing a well-marked instance of acute erysipe-

latous inflammation following a wound into a bursal cavity, a very frequent result of these accidents; but it is especially worthy of notice as affording a remarkable example of the rapidity with which a strong solution of the nitrate of silver subdues the most acute forms of erysipelatous inflammation, when local in its origin, and unaccompanied by constitutional disturbance.

It may be observed, that only three days sufficed to remove every symptom, and I think experience will bear me out in the assertion, that no other plan of treatment would so rapidly or effectually have removed this affection.

PROGRESS OF MEDICAL SCIENCE.

FRANCE.

(From our Paris Correspondent.)

CHOLERA IN AFRICA.

The accounts from Africa continue to bring a deplorable description of the ravages which the cholera exercises in that country. The following is an extract from one of the letters forwarded by the last packet:—

"Oran, November 5.

"Consternation reigns at Oran. It is said that 700 of the military, and 3700 civilians have been already cut off, without including the Jews, Moors, and the deaths reported at the mosques. One-sixth, at least, of the population has been removed. All the shops are closed, and business is entirely suspended. We have nothing but firing of cannons and lighting of fires to purify the air. Thirty criminals are employed in digging the trenches for the dead, who are collected every evening in long wagons. One batallion of light troops, 400 strong, has lost 200 men; the 2nd Chasseurs has lost 80. M. Poulain, chief Surgeon of the Military Hospital is dead; his successor, M. Hennequin, is dead likewise, and the same fate has just struck the head Physician of the same hospital, M. Goedrop. The four Sisters of Charity attached to the establishment have also been cut off, and an infinite number of hospital attendants."

In many other localities, the epidemic prevails with nearly equal intensity; but it appears to have attained its maximum; at least, it is rapidly marching on the desert, where the plague of war already decimates both natives and invaders.

PUBLIC HEALTH IN FRANCE.

From so melancholy a picture, it is pleasing to turn our eyes towards home, where peace and science are beginning to distribute their benefits. The great chemist, Dumas, is, as you know, our Minister of Commerce and Public Works. The advantage of having a truly scientific man connected with the Government of the country has already become apparent. The new Minister has appointed a Committee of practical and competent men to organize a general system of public baths and washhouses for the poor. These useful Institutions exist in great numbers here, but they are private speculations. M. Dumas desires that every parish shall have an establishment of its own, accessible to the poorest members of the community; they, in fact, are most in need of them.

Another question taken up by M. Dumas is that connected with the Medical Service of the Spas in France. The mineral waters of France are numerous and of almost every variety; but, if we except the sulphurous springs of Barreges, and the alkaline waters of Vichy, are comparatively unknown and neglected. M. Dumas desires to turn public attention to these natural sources of health, and, with this object, is about to create a Medical Clinique connected with them, and intended to illustrate their properties. It is also reported, that the Minister of Public Works strongly recommends the closing of the Hôtel Dieu, and the transfer of the patients therein contained to the new Hospital of the Republic in Clos St. Lazare. It is very probable that this improvement will be adopted, for nothing can be more insalubrious than the site of the Hôtel Dieu, the excessive mortality dependent on which has long been a source of regret and useless complaint to the medical men of the establishment.

SUCCESSOR TO BLANDIN.

The concours for the chair of Operative Surgery, vacant by the death of Blandin, commenced on Thursday last. There are no less than ten candidates, amongst whom may be distinguished Malgaigne, Robert, Maisonneuve, and Nelaton. The concours will be prolonged for a month, at least: and whatever be the result, will, at all events, supply a most competent Professor. In England it is thought enough to be the nephew of a great surgeon, or the son of a small one, to entitle the most moderate capacities to the highest places. Here, as of old, people say, "*stemmata quid faciunt;*" and when a young surgeon asks for a Professorship, or aspires to an hospital he must give public proof of capacity before a select court and an enlightened audience. If the best man be not always selected, a bad one never is, and this argument alone is enough to decide the question in its favour; yet, strange to say, many of those who defended this admirable Institution most warmly when they were young, are now either cold supporters or open enemies. But men change in so many ways.

GUTTA PERCHA CATHETERS.

M. Civiale has recently employed, with much advantage, one of the new catheters in gutta percha which I mentioned in a former letter. Having extracted a very large calculus by the hypogastric operation, M. Civiale placed a gutta percha catheter in the urethra and left it there for nineteen days. M. Civiale remarks, that the new catheter adapts itself much more perfectly than the old ones to the curvatures of the urethra; it likewise produces little or no irritation; and, when removed from the bladder, on the fourth and seventeenth days, it was found perfectly smooth both externally and internally; perfectly free from deposit; in fact, one would have thought that it had never been used.

NEW MEDICAL SOCIETY.

A new Society, called "The Hospitals' Medical Society," has been recently established here, and its discussions promise to furnish much interesting matter. At one of the last meetings senile *ramollissement* of the brain was on the tapis. M. Bouchut showed other causes than those indicated by Broussais, Rostan, and Abercrombie. In nearly all the cases examined by M. Bouchut were found "incrustation of the parietes of the cerebral vessels, accompanied by fibrinous coagula." In some cases the clots are so considerable as to reduce the arterial calibre by two-thirds. Hence, the natural effects—softening, or even gangrenous state of the cerebral pulp, from want of due nutrition. Besides, it is a well known fact, that ligature of the primary carotid often gives rise to cerebral gangrene from the same cause.

TRANSFORMATION OF MATTER—HABITS OF THE SILK-WORM.

Within the last few years some men of original minds have given a new direction to their studies, which promise already to produce results of the most interesting and important kind. Disregarding the sarcasms of the ignorant and prejudiced, they have attempted to unveil the secrets of nature in her most mysterious operations, and to show that many of the phenomena of life, hitherto accepted as inscrutable, may be explained by those simple and well-known laws which govern universal matter. Amongst the different subjects connected with this new branch of science, one of the most interesting perhaps is the link which unites into one vast whole the various classes of bodies that constitute animate and inanimate nature, and in no other branch of knowledge have more important discoveries been made than those which reveal to us the graduated connexity of parts apparently most dissimilar, or the transformation of forms and substances into other forms and other substances which have hitherto been regarded as essentially distinct from and incompatible with them.

Thus, for example, the essences of animal and vegetable life have ever been considered as totally dissimilar and inconvertible; yet some modern discoveries would lead us to presume, not only that they may be mixed together in the same substance, but that the eye of the natural philosopher can follow the transformation of the one matter into the other. M. Decaisne had long since directed attention to certain animated globules, which he denominated zoospores, and which are detached from some of the fungi. The Endochromes of certain vegetables are endowed with spontaneous motion. Finally, the history of those curious bodies, which, according to M. Montagne, enjoy successively animal or vegetable life, according to the period of their existence, prepares us for the fact now announced by M. Guerin, that he has witnessed the transformation of animal into vegetable matter in the body of the silkworm. According to M. Guerin, certain corpuscles, which form the nucleus of the blood-globules of the silkworm, are transformed into the roots of a fungoid body, whose subsequent vegetation constitutes the disease known under the name of "muscardine."

When examined under the microscope, the blood of the worm is found to be composed of a transparent albuminous fluid, containing myriads of nearly spherical bodies. The largest of these do not exceed the 1-100th of a millimetre in diameter. These globules appeared to be endowed with individual existence; they are constantly reproduced during the life of the insect, and undergo the following changes:—

1. The newly-formed globules are smaller, and present in their centre a single point of less transparency.

2. The globule has now increased in size. The centre contains a nucleus composed of several granules perfectly equal, and appearing to give to the nucleus a movement of systole and diastole.

3. At a still later period the granules separate from the nucleus, and advance towards the circumference.

4. Finally, the granules appear to endeavour to burst the envelope of the globule, which they push before them, forming little buds. At length, they do penetrate the envelope, and at once form other globules similar to the parent one, clothing themselves with a new and transparent membrane, which appears to be formed by the surrounding albumen.

Such is the condition of the blood in the healthy state; but when the insect becomes infected with the "muscardine," either naturally or by inoculation, another series of phenomena presents itself. Long before the death of the insect, we find a great number of blood granules mixed up with small navicular bodies, which subsequently become the thalli or roots of the botrytis muscardinensis. It is at this period of the malady, that the transformation of animated blood-corpuscles into vegetable matter was discovered by M. Guerin, who thus expresses himself:—

"In the blood of the worm (No. 3) which had been inoculated with the Botrytis a few days before, I find less of the normal globules, a considerable quantity of granules, rudiments of thalli, and a quantity of these rudiments in a state of transformation, being intermediate between the rudiment and the animated granule, and still preserving the vital movement peculiar to the latter."

Finally, if a drop of infected blood be placed on the object-glass of the microscope, the rudiments alluded to are seen to extend, ramify in various directions, and at length produce the sporules of the botrytis.

The immense experience of M. Guerin in the habits and conditions of the silk-worm, joined to his well known accuracy as an observer, leave no doubt on the reality of the transformation above described. It is one of the most curious and at the same time important discoveries of modern pathology; for it demonstrates, in fact, what the illustrious Liebig had developed in theory, that disease may be communicated to the blood through the medium of a ferment. Here, however, we advance a step further, and find a ferment not acting on substances analogous to itself, but converting an animal matter into a vegetable one. A single sporule inserted on the point of the finest needle is sufficient to work this wonderful change in the whole mass of the blood within forty-eight hours.

SELECTIONS FROM FOREIGN JOURNALS.

RESEARCHES MADE BY THE AID OF GALVANISM ON THE VITAL PROPERTIES O THE MUSCULAR SYSTEM IN HEALTH AN. DISEASE.

By M. DUCHENNE, of Boulogne.

I.—In a Memoir, extracted from Chapter I. o his Work, and addressed to the Academie de Sciences, he states—

1. Muscular contractility in galvanized paralytic is due to a disturbance of the state of irritability.

2. The disturbance is an organic lesion, not change of conductive force.

II. In the second part he believes himself to have demonstrated—

1. That in certain pathological conditions, irritability almost or quite disappears.

2. That this dynamic lesion coincides sometimes with a paralysis of voluntary movements, as in lead paralysis—sometimes with muscular weakening, as seen in the so-called general progressive paralysis.

3. That often irritability has disappeared from the muscular tissue, while the nervous trunks still preserve the faculty of provoking movement. Hence it is necessary to distinguish irritability from that special property of nerves, designated motricity by M. Flourens.

4. That the loss or diminution of irritability is not always the result of an appreciable anatomical lesion of the nervous centres.

5. Under certain treatments, one often sees voluntary movements, muscular force, and muscular nutrition, restored in all their integrity; while irritability has partially or altogether disappeared.

6. That from this well verified fact, this other capital proposition is rigorously deducible—*irritability is not necessary to motility.*

Hence, the author considers that Flourens' nomenclature above alluded to is correct; and that Cuvier's opinion, as to its being a superfluity of language, is incorrect.—*Comptes Rendus.* 1848. No. 26. P. 779.

CLINICAL REMARKS ON PULMONARY PHTHISIS.

By Dr. GROSHAUS.

In these observations, which embrace a great portion of the history of phthisis, the points which chiefly interest the attention are the diagnosis and the curability of the disease.

The author endeavours to prove that the physical diagnosis of the different forms of induration subsequent to pneumonia, and the tubercular deposition of phthisis, is sometimes altogether impossible. In truth, it may be affirmed, that in a subject with a distinctly marked dulness and absence of the respiratory murmur at the upper region of the lungs, on their evidence alone it would be difficult to determine whether it were a case of simple induration or the accumulation of crude tubercles. At that stage of phthisis there is no characteristic indication offered by the stethoscope, and it is on good grounds that our author affirms, that it is only from a general view of the whole symptoms of the case that an opinion can be delivered on the diagnosis. The same would hold true in the case of a pneumonia of a chronic character attacking a circumscribed portion of the lung. The case reported by our author does not appear very conclusive, for the general character of the symptoms are not so positive. The case was of an individual 34 years old, who had coughed and expectorated abundantly, for a month, purulent matter. He was wasting gradually with nocturnal perspirations. By auscultation the respiratory murmur was clearly developed over the whole anterior region of the chest; but posteriorly, on the level of the left scapula, the sound was perfectly dull, and there was *no* respiratory murmur whatever. At that point the bronchophony was distinct. At the *post-mortem* the right lung was found healthy all throughout, but the lower portion of the left lung was in a state of grey hepatization. Obviously, the wasting of the body, the nocturnal sweats, and the purulent expectoration, led to the apprehension of the presence of tubercles, and, on the other side, the absence of the respiratory murmur, and the dulness at one particular point are the signs which belong to induration. But the author had not reflected on the coincidence of a purulent expectoration, (indicative of deep disorganization of the lung, especially when attended with colliquative signs,) with a simple absence of the respiratory murmur, without the mucous râle, and without the gurgling sound. No such combination of sounds are ever found in phthisis.

As to the curability of phthisis, the author adopts the affirmative side of the question. Nevertheless, he believed that the frequency of the occurrence has been much exaggerated, and that very frequently there were cases of a particular form of pneumonia ending in the formation of small abscesses, the pus of which is gradually absorbed, and calcareous matter substituted. It is, in fact, a form of disorganization of the lung imperfectly noticed in France, and on which Addison, in England, has given some valuable details,—it is the *granulated induration.* It appears that the pulmonary vesicles themselves are not involved in the lesion, but are filled with a solid albuminous substance. On removing a small portion of this matter on the point of a lancet, it is at once apparent that it has no analogy whatever with ubercular matter. The idea of Dr. Groshaus is, hat indurations of this character may become the eat of partial softening, producing small caverns which may be obliterated, either by the adhesion of heir walls, or by the deposition of cretaceous matter, and he supposes that it is in this manner that many pulmonary cicatrices have been reputed as ures of consumption.—*Gazette Medicale.*

CONTRACTILITY OF THE SKIN FROM ELECTRICITY.

M. Brown-Séquard has communicated to the ociété de Biologie the following facts on this subject:—When the scrotum was submitted to a powerful electric current, the contraction of the dartos was very great. The scrotum was immediately and eeply wrinkled. When the electricity was passed hrough the skin, the cutis anserina was produced The hairs became erect, and the hair sacs prominent These phenomena were strongly marked on some aralytics. In healthy individuals their degree was ery variable. The contraction, as in the case of the rganic muscles, came on a little while after the application of the stimulus, and lasted some time after s removal. When applied to the scrotum there was voluptuous sensation and erection of the penis. he ourdan, Müller, Henlé, and others, is ascribed to he employment of too weak a current.—*Gaz. Med.*, ov. 10.

MEMOIR ON THE ANATOMY OF THE CONJUNCTIVA, AS RELATING TO ITS PATHOLOGICAL CONDITIONS AND THEIR TREATMENT.

By M. DE CONDE.

A careful examination demonstrates, in the different parts of the conjunctiva, very well-marked ifferences in its structure, and, on the other hand, e perceive diseases restricted to these particular ivisions or regions, each of them being limited to ne portion of the mucous tissue of the eye, without touching on the ground belonging to another ffection. On this principle the mucous membrane the eye subdivides itself into three parts—the rsal conjunctiva, the reflected conjunctiva, and e ocular conjunctiva.

The first, the tarsal conjunctiva, adheres in all s extent by cellular tissue closed in by the poste or surface of the tarsal cartilages. There are und the meibomian follicles, the secreting organs rheum. There, also, pathologically, is the seat the fleshy granulations, the secondary phenomena f contagious ophthalmia, and which is not necesarily connected with its presence. They are seen, hiefly confluent, on the upper palpebra, about a ne within the adherent margin of the tarsus.

The second portion or region begins about half a ne beyond the adherent border of the tarsus, and ontinues as far as the globe of the eye; it is conected with the soft fat by a very lax cellular tissue. M. Condé has noticed, that a tolerably large vessel, equently the only one that is discovered along the hole range of the palpebral conjunctiva, traverses his division of the membrane, dividing into numerous branches, the terminal subdivisions of which frequently impart to this portion of the conjunctiva a yellowish tint, which is marked from the remaining white of the mucous membrane.

It is this region alone of the conjunctiva, which, in infectious ophthalmia, becomes susceptible of the production of vesicles (vesicular granulations) which distinguish those diseases, never extending beyond it, either to the first or tarsal division, or to the third or ocular. Again, on the other part, fleshy granulations are never found on this portion of the membrane. It differs, accordingly, from the first division, inasmuch as it has not the elements for the fleshy granulations, and by this, that it, and it alone possesses the elements for the vesicular granulations. But, it may be asked, whether these vesicular granulations are a new product, or are they the result of a morbid change effected in a structure pre-existing in the healthy condition of the membrane? M. De Condé has entertained, for a long period, the latter opinion, though he had been unable to demonstrate it anatomically; but, M. Spring, Professor at the University of Liege, stated to him, that in his annual courses of anatomy, he demonstrated their presence in the posterior-tarsal palpebra, in the form of a crowd of little glands scattered over the surface. They are rendered quite apparent to a glass of moderate powers, if the precaution be adopted of softening the subjacent cellular tissue for a short while.

Paying attention to the above precaution, two linear dispositions of small prominent points are noticed like the points of pins, very fine pearls, exactly like small nipples but which in this microscopic condition are represented finally by the granulations termed vesicular. There can be no question, that these are the little glandular or follicular bodies, which enlarging pathologically, and their secretion changed from its usual character, acquiring a special disposition, constitute the vesicular granulation, which distinguishes the ophthalmia, termed military.

As to the third portion, M. de Condé admits its existence, though often disputed. It may, he observes, be separated from the cornea in large plates, simply by macerating the eye in warm water. In pterygion it undergoes a peculiar change, which often is entirely limited to its tissue.

In this membrane there are neither papillæ, or elements for the fleshy granulation, nor little glandular organs, or rudiments for the vesicular granulation. To which last condition, and to the employment of a radical treatment, limited to the palpebral conjunctiva, we are so often able to guarantee the safety of the eye.

ABSORPTION OF CASTOR OIL.

A dose of castor oil was administered to a young man who had received an injury of the back. The next day, no effect having followed the medicine, the patient was bled. On the surface of the blood, received in a basin, appeared little oily particles, and on the following day a complete oily pellicle had formed, which could be removed by the finger. It was quite certain there was no oil in the vessel.—*Il Raccoglitore Medico*, quoted by *Gaz. Med.*, Nov. 10.

SIZE (MAGNITUDE) OF THE EYE AT THE DIFFERENT EPOCHS OF LIFE.

BY M. QUETELET.

The undernoted results, referring to the magnitude of the eye in the horizontal direction, (that is to say, from one angle of the palpebræ to the other,) at the different periods of life, prove that towards five years of age, the eye has in a great measure acquired its full growth, the subsequent increase being very slow, and almost insensible.

	Men.	Women.
0 to 1 year	19 millimetres	18 millimetres
1 .. 3 ..	21 ..	20 ..
3 .. 5 ..	25 ..	25 ..
5 .. 7 ..	26 ..	26 ..
2 .. 9 ..	26 ..	26 ..
9 .. 11 ..	27 ..	27 ..
11 .. 13 ..	27 ..	27 ..
13 .. 15 ..	28 ..	27 ..
15 .. 18 ..	29 ..	28 ..
18 .. 20 ..	30 ..	28 ..
20 .. 25 ..	30 ..	28 ..
25 .. 30 ..	30 ..	28 ..
30 and upwards	30 ..	27 ..

Complaints having reached us of the irregular delivery of the MEDICAL TIMES *in the country by the Booksellers and Newsmen, we state, for the information of our readers, that this Journal is always published early on Friday afternoon, so that it may reach the Provinces by post on Saturday morning.*

Correspondents are requested to address their Communications to "The Editor of the MEDICAL TIMES, *147, Strand."*

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THE MEDICAL TIMES.

SATURDAY, NOVEMBER 24, 1849.

THE Board of Visiters appointed by the Michaelmas Court of Quarter Sessions, 1848, to inspect the private Lunatic Asylums in the Bristol District, has brought to light some startling truths. From the Fourth Report of the County Chairman, to the Gloucestershire Trinity Court, held 16th of October last, it appears that some of the worst abuses of the old *régime* still exist in a few of the Institutions established for the reception of the rich insane.

The enormities formerly perpetrated upon persons afflicted with mental alienation, induced the Legislature to pass laws to ameliorate their condition. So far as we can judge from statistics, there are, exclusive of imbeciles, three and twenty thousand persons of unsound mind in this country; and of these, 5,000 belong to the upper and middle classes of society. It is remarkable that, while the condition of pauper lunatics has been greatly improved—while the Institutions appointed for their reception have been placed under such surveillance as to render acts of oppression towards the inmates almost impossibilities—persons in better circumstances, immured in private asylums, may yet be subjected for a long time to serious maltreatment. The grand cause of this is, that private madhouses are generally mercantile speculations; the returns being proportioned to the numbers and resources of the individuals under the care of the proprietors. Hence, it is their interest to receive and to retain as many as possible of the "better classes;" and those patients who pay most are sometimes in the greatest danger of suffering the longest confinement.

The Government, in legislating for those persons, felt it had greater difficulties to contend against than in striking off and for ever the iron fetters which a barbarous age had placed upon the bodies of pauper lunatics. A vigilant inspection would almost to a certainty prevent a repetition, to any great extent, of the cruelties formerly perpetrated in the York Asylum, and in the hospitals of Bethlem and St. Luke, while the poverty of the pauper would insure his emancipation from confinement so soon as his malady was removed. The great difficulty was with persons who had gold at their command—a talisman of such singular powers as to open with facility the doors of private asylums for the admission of patients, but was a formidable barrier to their exit. Hence the necessity of licensed houses—of medical certificates—and of vigilant inspection; yet, with all these, Mammon has triumphed over Mercy, and has laughed to scorn the penalties of law.

Take as examples the Fishponds and Ridgeway House Asylums. At a cost of 1200*l.* to the county of Gloucester, some grave abuses in these establishments have been discovered and exposed. In the former, *strait-waistcoats, hobbles, and muffles, especially for* LADIES, were found to be used, and for a time escaped the notice of the Visiters, because unrecorded by the Superintendent. Here, also, the old-fashioned practice of washing dirty patients in the open air with a mop and cold water was not allowed to fall into disuse; and the principal of this establishment, in the space of eighteen months, had "by his commission of thirteen misdemeanours, and ninety cases, incurred penalties to the amount of 1710*l.*" A Mr. James Drury was illegally imprisoned for twenty years; and for the last four years of his incarceration at the Fishponds was allowed to remain without exercise. A Mr. L. B. was fifteen years in confinement—for ten years not out of doors, because he had not been dressed; "with shirt and stockings on, but without shoes, and with no other clothing but a quarter of a blanket tied round his shoulders, and another quarter round his loins—his beard unshaved and untrimmed." In this condition he remained till April of the present year; when at length, having been shod, clothed, shaved, and compelled to take exercise, he so rapidly regained a healthy tone of mind and body, that his friends removed him to their own home.

At the Ridgway-house there were no fixed baths; and a moveable one, discovered by the Visiters, had been selected by a hen wherein to make her nest and deposit her eggs. A gentleman named Hayward, "strong in body and sound in mind, as many witnesses can testify," was locked up in a bed-room in Ridgway-house for nearly four weeks, being only allowed, occasionally, to take a little exercise in the garden with a keeper. During this time, he had administered to him powerful medicine, and having no access to a water-closet, the stench in which he lived is described by witnesses as having been intolerable.

Such gross acts of injustice and cruelty as have been perpetrated in these Private Lunatic Asylums, go far to prove that the laws now in existence in reference to persons charged with insanity, need revision. A Medical Man, being proprietor of a private mad-house, has an authority which a non-professional person cannot possess. This very authority may be the means of perpetuating some of the worst abuses the law has sought to annihilate; and we have no better proof than in the cases before us. In all establishments, no matter who the proprietor, there should be a Medical Superintendent, having access to the patients at all times, responsible only to the Commissioners or Magistrates. This, with active visiters, may eventually remove those barbarous practices which originated in a dark age, and have been perpetuated by cupidity. The upper and middle classes of society claim especial protection, for psychological science is becoming so refined, that a peculiar religious opinion, a single eccentricity in conduct, or nervous irritability, may be viewed as unequivocal proof of madness, and the individual in whom it is manifested forthwith confined in a private asylum, it may be, for life. But, supposing an individual really insane, and that it is necessary to place him in an asylum, psychological science affords no pretext for exercising towards him mechanical violence. Pinel, Conolly, and other illustrious Physicians have entered their protest against it, and experience has proved that their views are correct. It is true, that in the Royal Asylum of Charenton, and in some other French hospitals, strait-waistcoats, coercion-chairs, and bed-straps are still used, but the consequence is, that there suicide is a frequent occurrence; while at Hanwell, where the non-restraint system has been in operation for some years, the happiest results have followed.

The Commissioners in Lunacy cannot overlook so important a document as that which has just been published by the Chairman of the Board of Visiters appointed to inspect the private Lunatic Asylums in the Bristol district. We shall immediately return to this all-important subject, and endeavour to illustrate, in more than one Editorial Article, the defective state of the Law of Lunacy, which the Legislature must endeavour to improve.

REFORM IN THE COLLEGE OF SURGEONS.

THE first-fruits of a more liberal constitution of the Council of the College of Surgeons have been exhibited in the Resolution to apply to the Crown for an amendment of the Charter of 1843. The members of the College will accept this concession as an instalment towards the redress of those grievances of which, for upwards of half a century, they have complained. We are not surprised at this demonstration of a returning sense of justice on the part of the Council, nor shall we be much amazed if this step should prove merely initiatory to a more comprehensive reform of the Profession, upon a basis that shall sustain the dignity of the Colleges, whilst it upholds the indefeasible rights of the members. That the mere admission to the Fellowship of members of the College of twenty years' standing will be received as the ultimatum of the Council on the broad question of Medical Reform is not probable, although, so far as it goes, and considered simply in the light of an improvement in the internal organization of the College, it will give satisfaction to numerous gentlemen who feel grieved and indignant at the unmerited exclusion from corporate rights and honours under which they now suffer. Even those gentlemen, however, who hope thus to be indemnified for past wrongs, must not consent to be lulled into supineness by the expectation of this small boon, for it is not impossible that the minority of the Council may exercise a more powerful influence with the Government than could be exerted by a vote of the majority, however large. There is a wide chasm between the application for a Charter and the grant of it.

We cannot refrain from pointing out, that the

admission to the Fellowship merely entitles the Fellow to a vote in the election of Council; but, if he practise midwifery and pharmacy, he is still excluded from the higher offices of the College. Besides, the admission to the Fellowship will, in all probability, be clogged with so many restrictions, even upon those whose standing ought to give them an unqualified title to this rank, that it will be regarded by many rather as a new imposition of pains and penalties than as a liberal acknowledgment of their legitimate claims. Nevertheless, whilst we see many objections to this measure, in its more limited aspects, we are disposed to receive it with goodwill, and to judge favourably of a Council that shows an inclination to repair the mischief and injustice of many years of past misrule. It may be that the majority of the Council feel it necessary to move with caution in the new path they have described for themselves, and that they feel some timidity in the exercise of their unwonted functions; for assuredly it is something new for the Council of the College to engage in the career of medical reformers. They have not yet acquired an aptitude for the work, and the gentle virtue of diffidence becomes their unpractised hand. Success will make them bolder; and, although we must confess that we are unused to the language of panegyric, we feel, on this occasion, a very impulsive disposition to celebrate their generosity in eulogistic strains, if only to show them, by the measure of our gratitude for small gifts, how greatly grateful we should prove for larger benefactions. We would encourage them in their new undertaking; for none are so much inclined to do better as those who are already pleased to think that they have done well.

There is wide scope yet for reform, and we think that it is the duty of the College of Physicians to step forth and vindicate its right to preside over the Medical practice of this country. The excessive poverty of this College reduces it in the eye of the Profession, and limits its usefulness. Whilst this College can hardly collect 1200*l*. per annum, the revenues of the College of Surgeons are 12,000*l*. The rivalry is unequal, and unless the College of Physicians *do* something for the progress of Medical science, it will in a few years cease to be honoured. It is manifest, that unless its funds be increased, its sphere of action will remain too contracted to retain for it, as a College, a station of becoming dignity among the Medical Institutions of this country. The College, if it be wise, will throw open its doors; there are many waiting to come in, whose attainments and social position would not dishonour this venerable and aristocratic body.

We observed, in an advertisement in our last week's Number, a notification that a Conference was about to be held on the subject of Medical Reform, at the Hanover-square Rooms, at the invitation of the Council of the National Institute; and we trust that the deliberations of this assembly will tend to harmony of opinion among all classes of reformers. There can be no doubt that the activity and vigilance of the Institute have been highly serviceable to the cause of the General Practitioner.

A notice of this meeting appears in another column.

ON THE SUPPLY OF SUBJECTS FOR DISSECTION.

It is with great regret that we can announce no improvement in the opportunities afforded to this year's students of acquiring a competent knowledge of the anatomy of the human body. We had hoped that the stir made about it last session, and the fact, that the attention of the College of Surgeons was then forced to this subject, would have led to some real and permanent improvement. The investigation, however, ended as usual in nothing, and the College contents itself with demanding a full knowledge of Anatomy from the Candidates for its Diploma, without paying attention to the obvious fact, that no student has a chance, however much he may be inclined, of acquiring such knowledge, at least in this country.

In Paris, we believe, the price of subjects varies from three to nine or ten francs, according as they may be injected, &c. In London a subject costs four pounds, and, even at this price, students have to wait perhaps for weeks or months before they can get an extremity. We fully believe, that at the Metropolitan schools there is not received, during the whole session, more than one subject, on the average, for every four students!

Can we be astonished, then, that on the whole our Medical men are far inferior to those of France in their knowledge of Anatomy? Ought we not rather to wonder how they contrive to acquire the amount of information they have? Ought the Colleges to be surprised at the frightful ignorance so frequently displayed at their examinations? Is the fault with the students? Ought the punishment to be visited on them? We answer—No. Give every student ample means of acquiring a full and practical knowledge of the structure of the body, and then require, strictly and sternly, a proof from him that those means have not been wasted or misapplied.

We believe that one anatomical teacher proposed, shortly before the commencement of the present session, when cholera was raging, that the body of no person who had died of that fell disease should be received for dissection at any of the London Schools. The proposition was immediately negatived, for it was felt that such fastidiousness was inopportune; that, let the subjects come from what quarter they would, or die of what disease they might, they were too precious to be rejected, and must be most thankfully received.

It is obvious that such a state of things should not, cannot, be permitted to last. There must be a fault somewhere. In so large a town as London, with such an amount of poverty, and so great a weekly mortality, the supply of subjects ought to be as abundant as in Paris, even though the expense be greater.

If London, then, is to retain its former reputation as a great school of Medicine and Surgery, it behoves the various lecturers and teachers to combine forthwith with the different Colleges, for the purpose of first determining the source of the mischief, and then of finally and completely correcting it.

Would that we may soon be enabled to inform our readers that our hopes and wishes have been realised.

THE REPORT OF THE CITY OFFICER OF HEALTH.

The Report of the City Officer of Health was on Wednesday discussed by the City Commissioners of Sewers, and by them referred to the Committee of Health, "to take into consideration the course to be adopted thereupon."

The real import of the meeting, of course, consists far less on this formal act of reference than in the discussion which preceded it, and which may be regarded as indicating, in some respect, both the opinion and the probable conduct of the Corporation of London.

On the whole, so far, so good. For the Report comes out of the furnace of discussion quite unscathed: its facts remain unchallenged, its recommendations furthered by a theoretic approval; and even in spite of their presumed impracticability, there clearly is a strong disposition to do something towards their fulfilment. There must and will be progress, in one or more of the directions suggested in the Report.

The dissentients,—clearly in the minority, both of numbers and of importance,—were so completely and specifically answered in the meeting by other members of the Commission, that refutation becomes unnecessary. One well-known opponent of Sanitary Reform seems rather to approach the rancorous; but when argument is deficient, personal hostility forms a ready, if not a creditable, substitute. It is difficult to gather precisely what happens in a stormy discussion; but we incline to think the Court showed scarcely sufficient anxiety to protect their officer in the discharge of his duty, from the impertinence of the person alluded to.

TYPHUS FEVER, TYPHOID FEVER, RELAPSING FEVER, AND FEBRICULA,

THE DISEASES COMMONLY CONFOUNDED UNDER THE TERM

CONTINUED FEVER.

ILLUSTRATED BY CASES COLLECTED AT THE BED-SIDE.

By W. JENNER, M.D. Lond., Professor of Pathological Anatomy, University College; Assistant Physician to University College Hospital, &c.

(Continued from page 405.)

In my last paper were detailed four cases of uncomplicated typhus fever, which, I stated, might be regarded as models of that disease. I shall, in the present paper, give a general description of typhus fever in its severe form, reserving till the next a consideration of the special symptoms on the varying severity of which the modifications the disease exhibits chiefly depend.

GENERAL DESCRIPTION OF THE SYMPTOMS AND PATHOLOGICAL APPEARANCES OBSERVED IN TYPHUS FEVER.

Typhus fever attacks persons of both sexes and of all ages, from early infancy to extreme old age.

After a few days' trifling sense of languor, or slight malaise of mind and body, the patient is seized, more or less suddenly, with rigors and chilliness, usually followed by heat of skin, and occasionally by sweating; pains in the back and limbs, and frontal headache. The rigors and sense of chilliness are in many cases repeated, at irregular intervals, for two or three days. The patient hovers over the fire one hour, although his skin may at the time feel hot to his attendant, and the next hour complains of the heat of the room; or

when near the fire feels hot and oppressed, when away chilly and uncomfortable. The appetite is lost, and there is frequently more or less thirst from the outset; the tongue is white, large, and pale, and often slightly tremulous;(a) the bowels confined or regular; the urine rather scanty and high-coloured; nausea and vomiting are often among the earliest symptoms. There is total want of sleep, or, on the contrary, heaviness and drowsiness. Sleep, if it occurs, disturbed by dreams, or interrupted every few minutes by sudden starts, is unrefreshing. The sick man frequently declares that he has "not had a wink of sleep," when those watching testify that he has slept for hours.(b) Unable to think or to fix his attention, he feels "downright ill," and so extremely weak, that, however pressing the calls for his exertion, the patient usually takes to his bed by the second or third day, and not unfrequently on the first. There is both absolute loss of muscular power, and an almost intolerable sense of exhaustion; the latter being at first, perhaps, out of proportion to the former. Vertigo and noise in the ears are frequently among the earliest and most loudly complained of symptoms, especially the former. The debility increases rapidly, so that by the seventh day the patient can rarely leave his bed without some assistance. By this time, if not before, the muscular movements are unsteady, the raised arm shakes, and the protruded tongue trembles. The inability to fix the thoughts soon passes into defect of memory; (c) this into delirium, at first between waking and sleeping, then by night; and finally by night and day. When delirium first sets in, the patient is able to correct himself, *i.e.*, on thinking he becomes conscious of his mental error, but this power is soon lost, and he believes in the existence of all the phantasms his imagination conjures up, or his erring senses paint.

The headache ceases on from the 7th to the 10th day of disease; if not before, almost invariably as soon as delirium commences (d).

About the fifth or sixth day an eruption appears on the skin; at first consisting of numerous roundish, slightly elevated, dusky pink spots effaceable on pressure by the finger, quickly resuming their colour, however, when the finger is removed; on the second or third day after their appearance these spots, instead of being effaced, merely fade, *i.e.*, grow paler, on pressure. At the same time, with the spots referred to, there is present a much paler rash, which appears to be seen through the cuticle, as if the spots composing it were, as the vulgar say, "not well out." The latter is the subcuticular rash, the whole eruption the mulberry rash. (a) The skin throughout the course of the disease is often particularly sensitive, the lightest touch occasioning pain. At the termination of the first, or at the commencement of the second week, the tongue grows dry in the centre, and at the same time its white fur is replaced by pale dirty brown mucus. Usually about the ninth or tenth day, but sometimes much earlier, the delirium becomes decided, although the attention may still be fixed by a sharp question. At this time the patient is in some cases violent, and, unless restrained, leaves his bed to wander about the room. The expression, which at first was simply indicative of langour, weariness, or of a semi-drowsy condition, resembling that of a man unwilling to be aroused from half drunken slumbers, is now that of complete stupidity and decided prostration. The complexion, which from the first, was thick and dirty, in the course of the second week becomes absolutely muddy; the conjunctivæ injected, and the pupils contracted. The face is now often flushed, the flush being dingy and pretty uniform over the whole face; occasionally, however, somewhat more marked on the cheeks than elsewhere. The eruption grows darker in hue, the centre of many of the spots towards the termination of the second week, are unaffected by pressure, and here and there are to be seen some spots with well-fined outline, quite unalterable in appearance by the firmest pressure of the finger, *i.e.*, true petechiæ. The posterior surface of the trunk is considerably congested, and the spots are there much darker and less affected by pressure than on the anterior surface.

About the 10th or 11th day, somnolence sets in and gradually passes into stupor and even coma, when the expression indicates profound prostration. The patient lies on his back unable to turn or assist himself in the slightest degree, and the urine is often passed involuntarily, or is retained, requiring the use of the catheter for its removal. The tongue is thickly coated, dry and dark brown, or even black, appearing as if baked; perhaps unable to be protruded; the teeth are covered with sordes; the patient is unable to be roused for more than a minute or two and then mutters incoherently; the conjunctivæ are intensely injected and the pupils contracted; the skin is cool, and occasionally moist; miliary vesicles, or sudamina, are sometimes observed about the end of the second week; usually in the groins, at the epigastrium, and under the clavicles.(a) The abdomen continues flaccid and indolent throughout. The bowels usually act once or twice a day, the stools being somewhat relaxed.

The pulse, from the outset of the disease, is quickened, and it increases in rapidity until the disease terminates fatally; or, after reaching a certain point, its frequency as gradually subsides till health is restored. A little cough and some sonorous râle are now and then present.

The disease generally terminates, if it proves fatal, from the twelfth to the twentieth day,(b) before death the prostration increases to the last degree; *subsultus tendinum*, or perhaps involuntary twitching of the muscles of the face and arms make their appearance; the face becomes dusky or even livid; the breathing very quick; the pulse so rapid and feeble that it can scarcely be felt, or, it may be, quite imperceptible; some want of resonance of the most depending part of the chest may often be observed at this stage of the disease; the respiratory murmur at the same part appears muffled, as if heard through a thick veil, and there is sometimes a little coarse unequal crepitation. The urine, which is secreted in large quantities—from three to four pints daily,—is retained, or passed into bed with the stools involuntarily. The skin, at this time, is often bathed in a profuse sweat, the temperature being below the natural standard; the spots are scarcely, or not at all, affected by pressure, especially on the dorsum; the whole skin of the posterior surface of the trunk is deeply congested. The patient lies on his back unable to move, or he sinks, if his head be at all elevated, towards the bottom of the bed. A slough frequently forms about the middle or the end of the second week on the lower end of the spine or on the posterior spine of the ilium.

(a) The early loss of mu ular power, of which the tremulous tongue is one xample, is a symptom of grave import so far as c icerns the prognosis. In no disease is the effect c previous habits of intemperance more clearly en, in causing muscular tremors, than in typhus ver.

(b) This fancied wa hfulness has been erroneously termed coma vigi

(c) It is a singular fact, that the patient invariably supposes time to be prolonged; thus, if taken ill on a Monday, he will say, on the Monday succeeding, that he has been ill ten or twelve days, or perhaps weeks, and never assert that his illness has lasted only four or five days. At the same time he may, and generally does remember the name of the day on which he was taken ill, or on which any given event happened. If the medical attendant tells the patient that any given day is Wednesday, if he asks, at his visit on the following day, "How long is it since you saw me?" the sick man will probably answer, "three or four days;" but, if he ask, "On what day did you see me last?" he will probably be answered correctly, "on Wednesday," especially if any event occurred at the first visit to make an impression on the patient.

(d) This is a point of great practical importance, for if headache is voluntarily complained of by the patient, or even if declared to be severe in answer to the question of the physician, after delirium has commenced, strong suspicions, to say the least, of inflammatory action within the cranium should be entertained, and remedies adopted in accordance with that view of the case. While headache, before delirium has commenced, is in itself not the slightest proof of increased vascular action within the cranial cavity.

(a) As a clear perception of the characters of the eruption in typhus fever is of the highest moment in forming a diagnosis, the reader's attention is especially directed to the following particulars:—Seen on about ninth day, the patient in a well-marked case of typhus fever appears covered with a dusky red rash, having somewhat the hue of mulberry stains. On more minute inspection, and careful watching from its commencement to its disappearance, the rash is found to be divisible into two parts.—

I. DISTINCT SPOTS.

Each spot passes through three stages.—*First stage.* —On their first appearance the spots have a dusky pinkish hue, and are very slightly elevated. They vary in size from a point to three or four lines in diameter. They are somewhat flattened on the surface, and have an irregular outline. They have no well-defined margin, but pass insensibly into the hue of the surrounding skin. They disappear on pressure, but resume their characteristic appearance as soon as the pressure is removed. The largest spots appear to be formed by the coalescence of two or more smaller, and the shape of the former is, as a consequence, more irregular than that of the latter *Second stage.*—In from one to three days the spots undergo a marked change; they are no longer elevated above the level of the surrounding cuticle; their hue grows darker and more dingy; and instead of disappearing, they only fade on pressure, *i e*, when the finger is firmly pressed on them they grow paler, but do not entirely disappear. In some cases the spots, after reaching this stage, pass into very faintly marked, reddish-brown stains, and then disappear *Third stage.*—In other cases the spots reach a third stage; their centres become dark purple, and are unaltered in appearance by the firmest pressure, although their circumferences still fade; or the entire spots, circumference as well as centre, change into petechiæ.* A few may be found in the third stage, while the majority are in the second.† The spots are generally very numerous on the trunk and extremities, but occasionally there are very few. They are rarely seen on the face. Their number reaches its maximum on the second or third day at latest. Each spot remains from its first eruption till the disease terminates, excepting a few large almost scarlet patches, occasionally seen on the back of the hand, on the fifth or sixth day of the disease, which usually disappear altogether in a day or two.

II. THE SUBCUTICULAR RASH.

When the rash is very abundant, usually many of the spots are pale, imperfectly marked, and run into each other; these spots are seen indistinctly, as if situated beneath the cuticle. They often give to the skin a mottled aspect, and on this mottled surface, which I have termed the subcuticular rash, as on a ground, the darker, more distinct spots are situated.

The appearance of the rash in typhus fever varies, then, according to the number of the spots, their stage, the abundance of the subcuticular rash, and the depth of colour of either. Sometimes there is present only a faint subcuticular rash, sometimes only a few well-marked spots, or again, the subcuticular rash may be abundant, the well-marked spots few in number, or the latter may be very numerous, and the former all but absent. For the whole eruption I have elsewhere (see *Monthly Journal*, April, 1849) proposed the term *mulberry rash*, and by that term I shall designate the eruption characteristic of typhus fever in these papers.

* By petechiæ I mean spots not elevated above the cuticle; of a dusky crimson or purple colour, quite unaffected by pressure, with well defined margins.

† I have sometimes observed the spots to possess the characters of the second or third stage on their first appearance.

(a) My impression is, that sudamina are rarely if ever, seen on patients more than fifty years of age.

(b) The question of critical days is not here considered. It requires for its solution a most careful analysis of numerous fatal and non-fatal, complicated and uncomplicated cases. The uncomplicated cases must evidently be analysed separately from the complicated, because the latter are often protracted long after the fever has run its course, or are cut short by the severity of the local disease almost irrespective of the fever. Ordinary hospital records, from the little trouble taken to fix the day on which the disease commences, are obviously of no avail in settling a question of so much delicacy as the one to which I here refer.

Occasionally, for a day or two before the fatal termination of the disease, the condition, termed coma vigil is observed.

A person labouring under coma vigil presents a very peculiar appearance. He never sleeps. He lies on his back, with his eyelids widely separated; his eyes staring, and fixed on vacuity; his mouth partially open; his face pale and expressionless. He is totally incapable of being roused to give a sign of consciousness; the breathing is often scarcely perceptible; the pulse rapid and feeble, or unable to be felt; the skin cool, perhaps bathed in perspiration. Life is only known to have ceased by the eye losing its little lustre, and the chest ceasing its slow and feeble movements. I have never seen recovery from absolute coma vigil.

If, instead of death, the disease terminates in recovery, the improvement in the condition of the patient is frequently sudden. On from the thirteenth to the seventeenth day he falls into a profound quiet sleep, and after from twelve to twenty-four, or even more hours, awakes decidedly improved in all respects. The complexion is clearer; the delirium has disappeared; the pulse fallen in frequency; the conjunctivæ are no longer injected; the tongue is moist at the edges; there is perhaps a little appetite; the skin is softer; the spots paler; the general powers improved. In a few days the tongue cleans, the appetite becomes ravenous, and the patient rapidly regains strength.

APPEARANCES FOUND AFTER DEATH FROM UNCOMPLICATED TYPHUS FEVER.

The cadaveric rigidity disappears shortly after death. The posterior surface of the trunk and extremities are of a deep port wine colour; the abdominal parietes rapidly assume a greenish hue, and the course of the large superficial veins in the neck, arms, and lower extremities, is often marked by lines of a dusky, dirty violet colour. If miliary vesicles formed during the last days of life, they are still seen.

On the surface of the trunk and extremities are und the remains of the spots noted during life. the spots were before death rendered paler on pressure, they are less distinctly marked, and have a less deep hue than during life; if they were unaffected by pressure, they retain the exact appearance they presented before death. Those on the most depending part of the subject are by far the deepest in hue.

If a portion of the skin is removed and examined with a lens, the persistence of the spots, which faded or grew paler on pressure, is found to be due to staining of the surface of the cutis; while the whole of that texture, and even the subcutaneous tissue, is dyed deep purple, in those spots which were unaffected by pressure during life.

There is usually a moderate amount of serosity beneath the arachnoid and in the meshes of the pia mater; and considerable congestion of the latter membrane, especially between the convolutions. The sinuses and larger vessels are filled with dark fluid blood. The arachnoid and pia mater separate with abnormal facility, and in much larger portions than natural, from the convex surface of the brain. Both membranes may generally be removed in an unbroken mass. The red points in the grey and white substance are rather more numerous, and larger than is usual after death from other diseases. The amount of fluid in the lateral ventricles and at the base of the brain is slightly increased. The consistence of the brain is nearly natural.

The pharynx and larynx are normal. The œsophagus is healthy, but its epithelium is found in a great measure detached. The mesenteric glands retain their normal appearance. The mucous membrane of the cardiac extremity of the stomach, nay the whole of its coats in that part, are frequently softened, and the entire lining membrane is smooth, presenting but few rugæ; in other particulars, the organ appears to possess the characters of health. The intestines, large and small, are normal in colour, thickness, and consistence; the liver moderately congested and flabby; the pancreas in a similar condition; the spleen varies somewhat in its state according to the age of the subject; before forty-five or fifty it is usually much enlarged; after that date it is still often enlarged, but not so decidedly as in the earlier period of life. Softening of the organ appears to follow the reverse order, as it is softer in aged than in young subjects. The kidneys are congested and flabby, and the epithelium lining the tubes of their cortical substance separates from the basement spontaneously very shortly after death. The bladder is healthy, but a little turbid fluid is frequently formed in it; the turbidity is owing, in many cases, to a separation of the epithelium covering the mucous membrane of the organ. The heart is particularly flabby; its contents are either fluid, or loosely coagulated black blood, and a small soft fibrinous clot stained reddish violet. The lungs are intensely congested posteriorly, and occasionally solidified at the same part. The solidified portion being that which, in the recumbent position, is the most dependent; the distance it extends into the lung varies from ½ to 1½ inch. It is tough, non-crepitant, non granular, and contains much dark reddish serosity. The crepitant portions adjacent are generally gorged with reddish frothy serosity. The bronchial tubes usually contain much frothy mucus, and their lining membrane is considerably congested. The bronchial glands appear healthy. The peritoneum pleuræ, and pericardium are normal in all particulars; but, if the examination after death has been delayed, the last contains some red serosity this red colour of the serosity is the consequence of transudation of a solution of the colouring matter of the blood. Large patches of epithelium may be detected by the microscope floating in it, but *no* blood-corpuscles.

[To be continued.]

REVIEWS.

Confessions of a Hypochondriac; or the Adventures of a Hyp in Search of Health. By M. R. C. S. Saunders and Ottley. 1849.

The object of this Work is, in the words of the Author, "to expose the follies of the hypochondriac and the crying evils of quackery;" and, although he has in some instances overshot his mark, he has, on the whole, succeeded in the attainment of his end. His book is a fair, if not talented, *exposé* of both, and cannot fail to amuse and instruct the general reader. The Author gives us an account of his early history, which tends to interest the reader in the subsequent narrative. On his father's death, he is obliged to sell an entailed estate and study medicine; he commences practice in his native city, but soon finds the truth of the aphorism, that 'a prophet has no honour in his own country." He pictures his disappointment and is on the brink of despair, when a rich relation dies leaving him a large fortune invested in a Liverpool mercantile house. He now exchanges his lancet for a pen, and his study for a counting-house. After forty years of toil he retires, travels, and returning fatigued, and free from the excitement of business, he becomes *ennuyé*, in short, a Hyp, and, as such, the natural victim of quacks and visionaries. He commences, like all of his genus, by consulting legitimate physicians, or, as they are now called, by way of further distinction, allopaths, and he gives a graphic description of the proverbial difference of opinion for which this learned body has ever been famous. One told him to resume his occupation of wares and merchandise; another, that the worry of trade had overstrained his nerves and exhausted their tone, and that he must have rest; and a third advised him to travel, the *dernier ressort*, we have reason to know, of many a fashionable M.D., when he wishes to get rid of his patient. At last he went to Bath, where the spa-physician, as a matter of course, tells him to employ the waters. Now, this is no uncommon case; there is not, we will venture to say, a physician of any experience who has not met with many such. If the love of life is sweet, the love of health is strong. Can we wonder, then, that the sick man, confounded and perplexed by the contending opinions expressed by those who are called *eminent* in the faculty, should at last lose faith in them, and embrace the first species of empiricism recommended to his notice. In these systems, be it observed, there is at least consistency; and this consistency gives birth to faith, and that faith, acting on the body through the medium of the mind, worketh marvels;—for example, the Homœopath sticks to his globules, and the Hydropath goes not beyond his cold water; but Dr. A gives physic; Dr. B recommends employment; Dr. D, repose; and Dr. E, travel. We affirm, that it is by these practices that quacks prosper,—that it is the crotchets of some of our professional brethren which increase the resources of the Chancellor of the Exchequer. But, to return to our author. He goes through all the phases of quackery, from the wet sheet to the magic bed; he tests the disciples of Hannehman and Preistnitz—the "infallible Goss and Co.—the unctuous Holloway and Lord B's accomplished Baron—the gouty Snooks and the bilious Scott—the life-prolonging Parr and the anti-bilious Frampton—the mysterious Widow Welch, and the incredible Dr. Locock—in all of whom," says he, "I found I had mistaken my confidence."

Within the limits of a short notice it would be impossible to follow the Hyp into the scenes which he describes during the period of his probation; suffice it to say, they are natural, and, although a certain vein of causticity, rather than satire, runs through the whole work, the style and language are free, mild, and gentleman-like. Before bidding adieu to the Hypochondriac, we would particularly direct the attention of our readers to the fourth Chapter of his work; it is on quacks and quackery, and enters into the question of the law in this country, with regard to the existence of the one as permitted, and the spread of the other, as encouraged by the Legislature. We would wish to quote largely from this Chapter, agreeing, as we most thoroughly do, in its sentiments and arguments, but our space prevents

In justice to the Hypochondriac, we cannot refrain from placing a few of his sentiments before the public:—

"The grand distinction between a physician and a quack is this, you may die with the one, but the other will be very likely to kill you. There is a sensible difference between dying and being killed, and of this the fraternity are conscious. A quack called on a physician. 'What is the matter,' said the latter, 'thy pulse trembles, thine eyes glare with terror?' 'I fear I shall die,' said the other. 'I have had the misfortune to take some of my own pills.'"

In talking of the state of the law regarding empirics—different in this country—shamefully different to what it is in any other, he says:—

"Sir James Graham's Bill provided no penal restriction for the unlicensed pretenders whose industry helps to overfill the unions, to gorge the gaols, to burden hospitals and charities with the incurable of deaf, halt, and blind, and to sink the immense sea of beggary which presses down every rank above it—industry, property, and talent, nearer and nearer to its own level of despair. A Bill without a penal clause to touch the traffickers in gullability and humbug would be a plague spot on the most philanthropic session. . . . . The Government derives a revenue from secret remedies and nostrums, and yet Morison has been prosecuted. The State permits the empirics to practise generally, but provides against the possibility of paupers in unions, felons, sailors, soldiers, and lunatics, falling into the hands of the unlicensed and unskilful."

What a paternal Government is ours! Legislators of St. Stephens read, mark, learn, and inwardly digest the above. And should you want further proof of the crying evils of quackery, as fostered by the laws of this country, read the rest

of this Chapter, from which we shall quote one more paragraph.

"It is in the nature of things that an evil is overlooked, as the Tooting and burial infamies were, till the monstrosity has grown large enough to excite public indignation! Then it is crushed. It will be thus with quackery; it will levy contributions and trick the innocent, till the public eye can be no longer blinded to its infamy. The Legislature will lie dormant till goaded into action *ab extra*. In the meantime quackery drives a thriving trade, and the public is genteelly cheated and poisoned."

The Results of all the Operations for the Extirpation of Diseased Ovaria by the large Incision. By Charles Clay, M.D. Manchester. 1849.

We take blame to ourselves for not noticing this reprint at an earlier period, but we thought the Surgical Profession had abandoned the operation. The great Leviathan of Surgery, (or of cutting,) Liston, used to call it, in his Lectures, *abominable* Surgery, instead of Abdominal Surgery; and, in his last work on Practical Surgery, 4th edition, 1846, he says, "Some of the individuals subjected to this process have got over the shock of the so-called operation,—some have lingered for a few weeks, and then died,—a few have miraculously escaped with their lives." Lizars of Edinburgh, who performed the operation, and published a large work on the subject—and than whom there is no better authority—comes to the conclusion, in his "System of Practical Surgery," that "Extirpation of the ovary has not obtained the approbation of British Practitioners, and therefore need not be described."

The diagnosis between a tumour of the uterus, and a diseased ovary, is scarcely practicable; the extent of the adhesions of an enlarged ovary, it is impossible to foretel; the number of blood-vessels extending from the contiguous viscera, as the great omentum, to the diseased ovary, is uncertain; lastly, the magnitude of the pedicle and its vascularity cannot be ascertained:—we should pause, therefore, before undertaking so uncertain and so formidable, if not generally fatal, an operation. Our Author himself encountered all these obstacles; sufficient we should have thought, to have induced him to abandon the operation. For example, he says, that Mrs. Dillon, who died after the operation, had "not an ovarian disease, but a tumour of another and widely different character,—one that would very soon have destroyed the patient." In the same individual, he found "the whole anterior surface of the tumour so adherent to the peritoneum, that to remove the mass was quite impracticable;"—"the character of the tumour was evidently of a very different character to the generality of ovarian tumours; it appeared highly vascular."

In the case of Hannah Edge, the adhesions were equally numerous, and she lost a large quantity of blood. In Mrs. Hardy, the pedicle extended from one fallopian tube to the other, and "the greater part of the uterus itself formed a part of the tumour," "the whole attachment being highly vascular,"—a graphic description of fainting and sinking follows, and she died in an hour and a half after the removal of the tumour. We understand a similar catastrophe followed this operation in a young lady of Edinburgh, operated on by Dr. Clay within the last twelve months.

We are of opinion, that the cases recorded by our Author warrant Liston's observations on the operation, and that few surgeons will be induced to follow Dr. Clay's footsteps.

A New Disease.—The American Correspondent of the *Times* announces, that a new and terrible disease, called the "bobo," has appeared at Vera Cruz. It is represented as being more fatal than the cholera.

REPORTS OF SOCIETIES.

THE NATIONAL INSTITUTE.

THE CONFERENCE AT THE HANOVER-SQUARE ROOMS.

A numerous and highly influential meeting of delegates from the various voluntary bodies associated for the purpose of reforming our Corporate Institutions, was held last Tuesday at the Hanover-square Rooms. Mr. Clifton, of Islington, vice-president of the National Institute, was called to the chair, and explained to the meeting the course the College of Surgeons had pursued at the Conferences at the College of Physicians; he stated, that the obstruction to a settlement of the medical question was the opposition offered by that College; and he especially reprobated the conduct of the College in disavowing the acts of its delegates. The Chairman then adverted to the report that it was the intention of the Council to apply for an amendment of the Charter of 1843, upon the principle of admitting to the privileges of the Fellowship, under certain restrictions, the members of twenty years' standing, and stated that it was for the consideration of this meeting, whether such a concession would satisfy the members, and also what steps should be taken, with reference not only to the proposed amendment of the Charter of the College, but also with regard to the general question of Medical reform. This meeting had been called together by the Institute in order to assimilate, by discussion, differences of opinion, and to induce unity of action among the various classes of Medical reformers, and he was gratified to see so large a number of gentlemen from all parts of the country assembled on this occasion.

Letters were read by Mr. Ross, from Dr. Hastings, President of the Provincial Association; Dr. Kidd, Regius Professor of Physic of Oxford; Mr. Peploe Cartwright, Secretary of the Shropshire Association; and Mr. Bowring, the Secretary of the Manchester Committee of Surgeons, and from many other gentlemen. Mr. Bottomley, the Chairman of the Associated Surgeons, was present, as were also several graduates of the Scotch Colleges, and Mr. Bowling, of Hammersmith; Mr. Propert; Mr. Merriman, of Kensington; Mr. Bird; Mr. Farnham Flower, of Chilcompton; Mr. Donald Dalrymple, of Norwich; Mr. Ancell; Mr. Gibson, of Ulverstone; Dr. Hodgkin, the Chairman of the Committee of Poor-law Medical Officers; Mr. Thomas Martin, of Reigate; Dr. Webster, of Dulwich, and many other gentlemen whose names we could not ascertain.

A most interesting discussion ensued upon the important question of an amendment of the Charter of the College of Surgeons, and it was ultimately agreed, with the unanimous assent of the assembled delegates—

"That a Deputation from the Conference be appointed for the purpose of ascertaining the extent of the concessions proposed to be granted by the Council of the College of Surgeons, in the amendment of the Charter of 1843; also, to submit to the Council the substance of the memoranda as now read by Mr. Bottomley, on the subject of a reform of the constitution of the College of Surgeons, and such other points in relation thereto as may be considered expedient, and that they report the result to an adjourned meeting of the Conference."

The following gentlemen were appointed members of the Deputation:—

Nathaniel Clifton, Esq.; John Propert, Esq.; George Bottomley, Esq., Croydon; Richard Southee, Esq., Cambridge; Henry Ancell, Esq.; D. Dalrymple, Esq., Norwich; James Bird, Esq.; F. Flower, Esq., Chilcompton; Peploe Cartwright, Esq., Oswestry; Dr. Webster, Dulwich; Thos. Martin, Esq., Reigate; Peter Hood, Esq.; John Bowling, Esq., Hammersmith; and Thomas H. Smith, Esq., St. Mary's Cray.

It was also resolved—

"That, should the answer of the Council of the College of Surgeons be unfavourable, the same Deputation do wait on Sir George Grey, to urge upon the Government the importance of an immediate incorporation of the General Practitioners into an independent College, and the passing an Act of Parliament to settle the great question of Medical reform."

The meeting then adjourned to another day, when they would receive the Report of the Deputation.

We shall give a fuller report of subsequent meetings of the Conference, as they are held.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

November 13, 1849.

Dr. Addison, President, in the chair.

HISTORY OF A CASE OF FOREIGN BODY IN THE RIGHT BRONCHUS: WITH REMARKS.

By JOHN G. FORBES, M.R.C.S., Surgeon to the Western General Dispensary.

The author introduced his case by some remarks on the difference of opinion which prevails regarding the propriety of attempting the removal of a foreign body, when impacted in a bronchial tube. The nature, size, and weight of the offending substance, and the age and previous state of health of the patient, he regards as important elements in the consideration of this question. The practicability of the operation is proved by the success which has attended its attempt in some instances, of which class those narrated by Mr. Liston are referred to. The difficulty of determining the exact position of the foreign body is an argument against the operation. If the diagnosis is clearly established—and there seems but small probability of the intruding substance being expectorated, on account of its nature and position—the author is of opinion that an early attempt should be made to extract it. The subject of the present case (Mrs. W——, aged 46) applied at the Western General Dispensary, on May 1, 1849, stating that on the previous day, whilst taking some broth, a small piece of solid matter, which she believed to be "bone, covered with gristle," passed into the windpipe. She was immediately seized with spasmodic cough and threatened suffocation, and it was some minutes before she recovered herself. Twenty-four hours after the accident her voice was hoarse; respiration slow and wheezing; there was a constant short cough and pain at the upper part of the chest. On the right side the natural vesicular murmur was scarcely audible, and a prolonged and peculiar rhonchus was heard throughout the lung, but most distinctly over the point to which the pain was referred. On the evening of the third day, the patient was affected with considerable constitutional disturbance, ushered in by a long shivering fit. On the fifth day, (May 14,) when the author visited his patient, he was accompanied by Dr. M'Intyre, Mr. Arnott, and Mr. Anderson. A remission of symptoms had suddenly taken place; and it was decided, that an operaton should not then be performed. On the 16th, the cooing sound had generated into a peculiar whiff or puff. The expectoration was more copious, and the cough troublesome, and aggravated by the slightest exertion or excitement. Mr. Arnott again saw the patient, in consultation with the author and his colleagues; but, as the symptoms of the patient were not very urgent, and it was very uncertain exactly where the foreign body was fixed, it was thought prudent not to operate. During the ensuing fortnight, the symptoms were, disturbed nights; paroxysms of fever; profuse night sweats, &c.; and the cough assumed a more paroxysmal character. On June 1st, the symptoms were further aggravated, the expectoration becoming more abundant. After this date, until June 21st, there was considerable amendment in the general condition of the patient; but, on the 22nd, the expectoration assumed a dingy appearance, and offensive odour; the breathing and pulse were hurried. On the 25th, the fetid, purulent expectoration was increased, and the constitutional disturbance further aggravated; and from this time she never rallied, but died on the 5th of July. *Autopsy.*—The carotid artery of the right side was observed to take an abnormal course, running obliquely upwards, and to the right side in front of the trachea. The right lung filled its own side of the chest, and in its inferior two-thirds, was adherent to the ribs and diaphragm; and close upon the latter, in front, there was a pleuritic abscess, the size of the palm of a hand. The foreign body, a small piece of bone, weighing when dry three grains and a half, partly rough and sharp, and in part smooth, was found firmly impacted in the orifice of the third branch, given off from the bronchus, which passed into the middle lobe; a circumstance which accounted for the fact which had been noticed during life, that air passed with comparative freedom into the upper part of the affected lung. The lower two-thirds of the same lung were of an ashy slate colour, of dense consistence; very offensive odour, and infiltrated with a purulent fluid. That part of the upper lobe which was supplied with air, appears healthy. The

author concluded by directing attention to the risk which would have been incurred, of wounding the right carotid artery, had an operation been attempted.

Dr. Black remarked that there were not any points in the paper which had just been read which specially called for discussion. There were, however, many excellent points in it, which were very correctly given. The symptoms of the case might be fairly divided into two distinct epochs—those in the first being indicative of the irritation caused by the presence of the foreign body; and in the second, of the inflammatory action, which was subsequently set up in the lungs. There was one symptom of considerable importance noticed in the first condition, which he was able to corroborate,—the expectoration consisted simply of frothy mucus. This he had always found to be the case when the irritation was caused by obstruction only. The natural secretion of the lining membrane of the lungs in an uninflamed state, continued to be poured forth under such circumstances, but frequently so increased in amount as to fill several vessels—the usual spitting vessels found in hospitals—in a short time. If in any case there existed a doubt as to the presence of a foreign body in the lungs, causing obstruction of the air tubes, this character of the expectoration would be useful in forming the diagnosis. When the dyspnœa is referrible to obstruction only, the secretion is the same as from an uninflamed surface; but in bronchitis, with dyspnœa and cough, the secretion is poured forth from an inflamed surface, and is changed in character. These diagnostic indications were of service as a guide to the necessity for an operation, and their neglect, as he had noticed, might lead to bad results.

Dr. Addison inquired if the contents of the abscess were offensive?

Mr. Gregory Forbes having answered in the affirmative,

Dr. Addison added, that he had inquired, because the appearance of the lung was very much like that of a lung into which an abscess containing offensive matter had made its way.

Dr. Sibson said, that if a foreign body fell into either bronchus, it would be into the right, its direction being comparatively straight. It would also of necessity not fall into the upper branches of the bronchus, but would pass them, and fall into the lowest, as it had done in the case before the Society. The ground is thus far narrowed. A loss of expansion during respiration, and a falling in over the part where the foreign body is, with the aid of the other auscultatory and physical signs, will indicate its position,—a knowledge of which should be accurately obtained before any operation for the removal of the extraneous substance is made. With this object in view, it is requisite to be well acquainted with the position of the bifurcation of the trachea, and of the larger bronchi, relative to the spine. He (Dr. Sibson) had examined about eight bodies from behind forwards, and had found that the division of the trachea was just in front of the fifth or sixth dorsal vertebra, and the lower branch of the right bronchus about an inch lower down, or nearly opposite the seventh or eighth dorsal vertebra. During inspiration, on account of the descent of the diaphragm, the bifurcation of the trachea is drawn downwards, and during expiration it is rather higher than the part just mentioned. In Mr. Forbes' case, the process of respiration was obstructed in the lowest lobe, owing to the presence of the foreign body, while the upper ones were free. Expiration can be carried on readily when a bronchial tube, or the larynx, is obstructed by a foreign body, while respiration is impeded, it being easier for the air in the lungs to escape during respiration from behind the foreign body, than for air to enter the lung in opposition to the foreign body, which, in all probability, would be impelled further into the tube by the entering air. The consequence of this is, that all the air in the obstructed portion of lung is expelled, and then follows a falling in of the chest over that part, constituting an important point of evidence as to the seat of the foreign body. This falling in of the chest, with the want of motion in its parietes, and the definite sign of dulness on percussion, are all contrasted with the reverse condition, which exists, even in an exaggerated state, in the unaffected lung, and sometimes even in those portions of the affected lung which are not involved in the obstruction. An interesting point in Mr. Forbes' case referred to the measurement of the respective sides of the chest; it was stated that, in that case, both were equal; now he had found, on measuring several chests, that the right was half an inch larger than the left; it was probable, therefore, that the right side of the chest, in the case under notice, had lost that half inch. There was generally great difficulty experienced in extracting these foreign bodies. It had occurred to him that an instrument, similar to Dr. Simpson's air tractor, might be useful in their extraction. With respect to the peculiar position of the carotid artery, in crossing over the lower part of the trachea, he (Dr. Sibson) did not look upon it as abnormal. He had met with it in many cases where the chest was very small, but when the lungs are fully distended, this vessel and the innominata are drawn down within the chest, the sternum the while ascending and concealing, or, rather, covering the arteries at that part.

Dr. C. J. B. Williams said, that the case they had just heard read was a very instructive one, as illustrating the diagnosis and pathology of foreign bodies in the air-tube. He would wish to make one or two remarks respecting the diagnosis. The foreign body in this case was of so small a size and so peculiar a figure, that it was not adapted to show many physical signs of its presence, and yet, as its history proved, it did produce some very peculiar indications thereof. He thought there were very few cases in which, by careful management, and an accurate examination of the respiration, and of the difference therein from position, some physical signs of the presence of a foreign body would not be elicited. A difference in the shape of the foreign body would cause a difference in the physical signs indicative of its presence. Angular bodies, for instance, would not give rise to signs of total obstruction. In the case before the Society, the greater number of pathological symptoms depended on irritation, and not on complete obstruction. The latter condition would be caused by rounded bodies, which were able to plug up a bronchial tube completely—as was shown by a case related during the last session, in which a pebble had got into one of the bronchi. When the foreign body is moveable, and does not quite plug up the tube, peculiar sounds would be heard, which would readily enable us to diagnose its presentation. A foreign body in the right bronchus would be more readily discovered by an examination of the back than of the front part of the chest, as the tube there is nearer the exterior. The pathological changes which are induced by the presence of a foreign body illustrate its influence on the textures: signs of irritation are first induced, subsequently more or less pain, and cough of a spasmodic character, and dyspnœa, evidently also produced by spasm. It is remarkable, how long some foreign bodies may remain in the air-tubes without causing irritation at all. Smooth bodies are not calculated to induce inflammatory action; but they do so ultimately. The inflammation thus caused does not resemble ordinary bronchitis, but passes into the chronic stage. It is characterised by bloody expectoration, which soon becomes putrefactive and offensive. Liston often diagnosed the presence of foreign bodies in the air-tubes by the odour of the expectoration. In a case in which he had done so, a portion of the cricoid cartilage, which had become ossified, had separated, and fallen down into the bronchus, where it had produced all the symptoms indicative of the presence of a foreign body. The existence of such a cause of irritation was not at the time suspected. Liston, however, operated for tracheotomy, and after a time the ossified cartilage was expelled through the opening, during a fit of convulsive coughing. After death another piece of ossified cartilage was found in the left bronchus, having been separated and fallen down subsequently to the performance of the operation. The pathological changes in this case were the same as are usually met with; these were—fetid breath, purulent expectoration, &c., and the lung was found in a consolidated state. The patient appeared to die of a low form of suppurative pneumonia. He thought, from this and other cases, that it was necessary and advisable to remove the foreign body as soon as possible after the accident had occurred. It should be performed early, before the accident had affected the lungs, before bronchitis had been set up, or congestion of the organ had occurred; if not, the admission of air through the opening might be followed by injurious consequences. Had the operation, in the case before the Society, been practised before inflammatory action was set up, the patient might have recovered.

Mr. Arnott, in reply, observed that Dr. Williams had stated that, if the operation had been performed early in this case, the foreign body might have been removed, and the patient would probably have recovered. He had seen the case five or six days after the accident was reported to have occurred; he was told that the woman had swallowed a piece of bone or gristle—it was doubtful which. There had been symptoms indicative of the presence of a foreign body; but when he saw the case, there was a lull in the symptoms. The first question to be decided was—whether there were a foreign body in the bronchus or not; and the second, whether it were moveable; because then, if an opening in the trachea were made, it might be expelled through it during a paroxysm of convulsive coughing, or if there were no such paroxysm, it might be extracted. The woman had suffered from pain in the chest previously. There was not any evidence as to where it lay; the upper part of the chest was clear on percussion, and consequently it was not in the bronchus leading to the upper lobe; it might certainly be in a branch of the bronchus; but what physician could place his finger on the exact spot where it lay? In the absence, therefore, of any clear evidence as to the absolute position of this foreign body, he did not think that any surgeon would be justified in operating. The question, under such circumstances, should be—is there a fair chance of succeeding? With the knowledge they have now, from the *post mortem* examination of this case, if a similar one were to occur, he should certainly operate, but still it would be without any certainty of success. In this case the foreign body lay in the third or lowest branch of the right bronchus, and was firmly grasped by the tube, which it entirely filled; and, consequently, there would be great difficulty in passing and using the peculiar kind of forceps which is requisite for the removal of foreign bodies under such circumstances. The instrument might, perhaps, be used with safety in the first or the second branch of the bronchus, but scarcely so in the third. With regard to this particular case, seeing that the carotid artery ran across the lower part of the trachea, it in all probability would have been notched or wounded during the operation, and the patient might have died of hæmorrhage on the table. It taught us that great caution should be practised in all operations on that part of the neck, or near the upper part of the sternum.

Dr. Pettigrew considered the course the carotid artery took in this case to be exceedingly rare. He had never met with an example. With respect to the possibility of a piece of gristle in the air-tubes becoming softened and expectorated, he thought it would be dangerous to trust to it. He had found that a piece of cabbage and other analogous matters would not. He believed it was difficult to ascertain when any substance had passed into the trachea; the physician must aid us in our diagnosis. It was not impossible, he thought, that Avery's speculum might be of use in such cases (?).

Mr. Holmes Coote considered the operation of introducing a large pair of forceps into the bronchi as not unattended with danger. He had seen two cases in which foreign bodies in the trachea had been coughed up, and expelled without operation. The patients recovered.

After some observations from Mr. Curling respecting the operation, the meeting was adjourned.

WESTMINSTER MEDICAL SOCIETY.
Nov. 10, 1849.

JOHN SNOW, M.D., in the Chair.

Mr. Canton described a case of enlarged lymphatic glands and diseased parotid, which he had recently extirpated. The patient had been under his care at the Royal Westminster Ophthalmic Hospital for amaurosis. It had been difficult to ascertain whether the last-named disease was functional or structural, but the result showed that it was organic, it not being amenable to treatment. After some time the patient complained of a swelling at the angle of the jaw, where there was found a slight elevation, about half an inch above the surface. The tumour was small and round, not easily movable, and apparently connected with the parotid. There was at that time little or no inconvenience from it, excepting some difficulty in opening or shutting the mouth, which increased as the tumour became larger. Iodine and mercurial plasters were used, and leeches applied occasionally, but without advantage. After a time the patient became deaf in the corresponding ear, the deafness increasing as the swelling became larger. It then became a question as to the propriety of operating, the depth to which the tumour extended not being ascertainable; its extent externally being from the mastoid process to the angle of the jaw. The reason that finally determined the operation was, that the man was already blind, and thus deprived of one essential comfort, and was becoming deaf of one ear—if at a future time the other ear lost its power, his life would be very miserable. The operation was accordingly performed, when the tumour was found to be composed of lymphatic, conglobate glands in the parotid: part of the latter gland was also removed. The tumour presented something of the fungoid character; it was not merely a simple enlargement. No ill resulted from the operation. Very little blood was lost, and the patient recovered without salivary fistula or paralysis. During the operation, however, the external jugular, which had been somewhat displaced by the growth of the tumour, was wounded; this might have been attended with danger, but Mr. Canton being aided by very efficient assistants, the finger was placed at once on the opening, and the vein secured. Some tenderness existed for a few days afterwards in the course of the vein, which was removed by leeches, fomentations, and salines. The patient recovered his hearing, and he thought for a time that his sight had improved; but this was not really the case.

Mr. Chippendale considered the case to be of importance, as illustrative of operations on the parotid. Anatomists generally considered that that gland could not be extirpated, and he believed that in the majority of cases where its extirpation had been announced, it was, as in this case, merely the lymphatic glands in the gland itself which had been removed.

Mr. Walton inquired if any microscopic examination of the tumour had been made?

Mr. Canton replied in the negative.

Mr. Walton then read the following case, which our woodcut well illustrates:—

James Clarke, aged 56, called on me in August of this year, and requested me to remove a tumour which was on the right side of his face and neck. I will briefly mention its physical characters. It was irregularly lobulated, and measured six inches in its transverse, a little more in its vertical diameter, seventeen inches around its base; and its thickness, that is, taking the parotid gland as its internal limit, to its most prominent external part, five inches and a half.

The general surface was hard; some few of the lobes, however, were elastic, and conveyed to the touch the sensation of fluctuation.

The highest portion was on a line with the zygoma; the lowest nearly reached the clavicle; the most posterior projected a little behind the mastoid process. The lower part of the ear was pushed upwards, and its lobe stretched out on the tumour. Its investing skin was healthy in every part, and inadherent.

The cast exhibited gave an accurate view of its size and boundaries.

The history was difficult to be obtained. The nearest approximation to the truth appears to be,



that seven years ago a "pimple" came under the ear; it increased, and, in twelve months, a second "pimple," similar to the first, appeared a little in front. They grew in proportion to their duration, and when the larger was about as big as a billiard-ball, seemed to coalesce. It was not until after their individuality was thus lost that lobes were detected. Within the last two years, the enlargement, as compared with the antecedent growth, has been disproportionately rapid. He says, that the easiest position in bed is to lie on the tumour. The functions of mastication, deglutition, and respiration, are not interfered with. The poor fellow had been a recluse for some years; he had not courage to stand the gaze of the curious, nor to hear the remarks of the inconsiderate, nor determination enough to resign himself to the surgeon. Now, however, feeling his condition of existence that of unendurable misery, he applied to me. I considered an operation practicable, and my opinion received confirmation from Messrs. Coulson and Shute, whose advice I sought. Dr. Routh, my colleague, kindly examined, with care, the thoracic and abdominal viscera, and reported, that so far as he could discover, there was exemption from organic disease. It was necessary for an accurate inspection to be made, because some circumstances induced me to suspect unhealthiness in the chest. Besides, chloroform was to be given, and, in all probability, a long employment of it would be necessary.

I shall now describe the operation, which was done on Sept. 2. The integuments were divided by three long cuts, two of which were nearly vertical, the one being along the posterior border of the tumour, the other along its anterior, and one transverse across the centre. The lower flap was reflected first, then the upper, and the final separation of the tumour completed from above to below.

Every part was taken away. A very dense cellular sheath enveloped it; the cervical portion was covered by the platysma muscle. The blood-vessels that supplied it, though numerous, were not large; to seven arteries were ligatures applied.

Here is the morbid mass; I have divided it. It weighed two pounds and three quarters. In the centre is a cavity, which was filled with a straw-coloured fluid. I should say that it is a good specimen of what Mr. Abernethy denominated pancreatic sarcoma, the non-malignant scirrhus of Dr. Warren. Dr. Routh, who examined it microscopically, says—"I find it to be in the main cartilage, with a few fibres. I saw one caudate corpuscle, but only one. This might have been some ill-shaped blood-globule. The liquid in the cavity of the tumour was serum and blood, with a few epithelium scales." Dr. Peacock, who also looked at it for me, confirmed Dr Routh's observations. He pronounced it to be a simple fibro-cartilaginous tumour, consisting of a delicate stroma, enclosing a small proportion of large nucleated cells. Of its pathology, I am more willing to receive than to give an opinion.

Report.—This may be very short. Recovery was rapid; on the third day the sutures were removed; on the 14th he returned home, the wound having quite healed, except at the angles of the upper flap, which were not as nicely put together as they should have been.

Remarks.—Here is well illustrated the fact, that a tumour, however large, matters not, surgically speaking, even when situated over the most intricate anatomical relations, so long as it is *free*, *i.e.*, does not form connexions by adhering to, passing amongst, or enveloping the important structures it covers. Mobility, the test by which we judge of the isolation, or the extent of a tumour, and decide whether an operation may be undertaken for its removal, is not an entire one; it is not capable of giving us the whole truth, yet, in proportion to its degree, are we enabled to pronounce with the greater certainty of the state of things.

Two instructive cases of tumours in the neck occurred, not long since in the practice of two eminent London surgeons. The tumours, not large, possessed so much freedom of motion, and seemed in every other respect so eligible for operation, that their extirpation was undertaken with the greatest confidence of easy execution. The one was abandoned because of its deep and intricate connexions, the outer portion that was freed, having been cut off. The other was got away entire, but its accomplishment required a very lengthy, and most difficult, and I may add, very dangerous dissection. Mr. Lawrence used to mention a case in his lectures, (and it seems to have made a deep impression, for I have heard him tell it on other occasions,) of a gentleman who came to him with a tumour about the size of an orange, partly behind and partly on the ramus of the jaw; it was moveable, yet on account of not being able to feel the whole of it, he was uncertain of its attachments. He advised an operation, but spoke of it as a formidable affair. Assent was given; the base, at which enormous arteries entered, was so deep that he could not get under it without cutting into the tumour; then he

found it necessary to slice off a portion to permit all, as he thought, to be removed, and which was apparently done, yet more was found, which, after tedious dissection, he traced between the external and internal carotid arteries to the front of the cervical vertebræ, and with his finger broke down the attachments. On the other hand, I must observe, that immobility is but an equivocal proof of complication, for a non-adherent tumour may be sufficiently bound down by fascia to prevent any motion: and if there were, as in all probability there would be in such a case, indefiniteness of outline, it would indeed be very difficult to decide whether an operation should be undertaken. A second cast was exhibited in which these circumstances were present, and in addition there was a pulsation communicated from the carotid artery, which much increased the obscurity. Surgical interference had been refused by those to whom the patient applied; it was thought that the carotid passed through it, and I undertook the operation because, from the history, I suspected the tumour to be free, but merely tied down by fascia, but especially, because both respiration and deglutition were interfered with, and became more impaired from week to week. The accession of such dangerous symptoms showing that the passages to the lungs and the stomach were narrowed, were very significant, and from them one of two important conclusions was to be drawn. They demonstrated either the tightness with which the tumour was bound, and hence perhaps the only cause of its immobility, or pointed out its extended, and may be, intricate connexions. I considered the former the proper interpretation; fortunately I was correct. I removed every part without dividing or injuring any of the important textures in the vicinity, except the portio dura, although many of them were necessarily exposed. The patient made a good recovery.

Such cases are very obscure, and all the evidence we can collect will not, on many occasions, allow us to speak but conjecturally. Tumours that appear to be incorporated with the surrounding textures (I exclude from consideration the malignant class) require a most careful consideration before deciding on an operation, for implication without is a pretty sure proof of a similar state within. An instructive case has been recorded in the fortieth volume of the *Medical Gazette*, by Mr. Henry Smith, of a fibrous tumour of the neck that was sent to London by a surgeon for operation. The gentleman to whom it was consigned declined interference; its external limits seemed to him too much blended with the healthy structures to warrant the use of the knife. The patient died. After describing its extensive and varied connexions, Mr. Smith says—"The arteria innominata entered at its lower border, and then immediately divided into its two branches; the carotid artery passed through its substance, and the trachea and œsophagus were closely adherent to it."

Another cast shown by Mr. Walton exhibited the external characters of those small, hard, and tight tumours that are occasionally met with in the situation of the parotid gland, and which, causing the greater part of that gland to disappear, send in prolongations, and wedge themselves in the long channels between the mastoid and styloid processes, and between the latter process and the jaw, and become immovable. Although there is here to the eye an indistinctness of limit, the finger can trace satisfactorily a disconnexion between its outer portion and the neighbouring parts. It has existed for more than a year, and is on the increase. Here our valuable guide for the propriety of operation does not avail us. Insusceptibility of motion must not be taken into account if other circumstances do not forbid an operation.

It is in the large growths with wide bases, of which the subject of my paper is an excellent example, that our foreknowledge of connexion and extent is the less sure, because their circumference prevents the outline of the parts on which they lie being traced, and their mere size may to some extent overcome the tension and firmness of adhesions, or of prolongations, and deceive us; for, handle them as you will, they must carry weight with them. The source and extent of the vascular supply of cervical tumours must always be a matter of uncertainty. Their size does not afford any criterion. There can be but few present, if indeed there are any, who require to be told, that sometimes after tying all the vessels on which ligatures can be placed, and resorting to every other means for stopping hæmorrhage, including tying the common carotid artery, the patient may sink from loss of blood. All the foregoing circumstances show the necessity of thoroughly studying tumours surgically, and being ever prepared for emergencies.

The H like manner of dividing the integuments was adopted because it would produce less after deformity than any other, is the best adapted for the removal of large tumours, and by it the flaps were most advantageously arranged; for here, and, indeed, in other operations where extensive dissection of skin is required, it is better if a choice can be commanded, to make the flaps in a line with you, or above and below, according to the position of the patient, rather than laterally, because they may then be reflected with more ease and facility, and the crossing of hands, or the change of position of the operator, or of his assistant, is avoided,—an awkwardness that must ensue if they are lateral, and the right hand alone employed with the knife.

The last point I shall notice, is that of taking away portions of skin at the time of extirpating large growths, under the idea that there will be more than can be required, or that it will, from its superfluity, be an impediment to favourable recovery. For a long time my impression has been, that it is injudicious to remove skin without also removing the part that it naturally covers, because, in all probability, its want will be felt during the healing process, or its loss more or less apparent subsequently, if not actually detrimental. Of course, much must depend on the amount removed, and the situation whence it is taken. I am well aware, that instances can be advanced of loss of skin without any demonstrable disadvantage. It is the broad rule, and not the exception, that I argue *for*; besides, if in freeing the body of disease, an equally good result can be obtained without the loss of a particular structure, it is our duty to preserve it. The high and daily increasing appreciation of conservative surgery supersedes the necessity of my saying more. I have met with several persons who consider that there is always an actual growth of skin commensurate with the tumour it covers, and advance that as a necessity for taking some of it away. I do not think that any proof has been afforded in evidence of the assertion; even if there were, their conclusion may be unsound; for, in all probability, by the same law that skin would be produced when wanted, it would, in time, be removed when useless.

When skin is diseased it should be removed; a course to be adopted when it is adherent, and cannot be entirely separated from what it covers without injuring its texture, or whenever it exhibits a decidedly unhealthy action, or when greatly attenuated, in which state I presume its physical properties to be almost entirely destroyed. These are rather beyond my present consideration. My remarks are meant to apply to healthy cuticular structure. If skin be merely stretched over a tumour, as well as pulled from the surrounding parts, on being liberated it will, in time, contract and recede, and so recover itself. Of course there will often be more or less traces of the injury it has received in the stretching. In the natural state of our bodies the skin is always exerting its elasticity, the exercise of which property is extended to the flabby coverings from adventitious growths, and in no inconsiderable manner adjusts them to their natural places 'till they regain their suspended functions. It is because this elasticity is not sufficiently recognised that we frequently see such shocking stumps after amputations, even in flap operations, arising from insufficient integument. The scalp which is harder and less elastic than the general skin affords a remarkable example of recovery after being stretched. From its dense cellular attachments, the covering of a tumour must be almost entirely provided by that portion corresponding to the spot at which the abnormal growth commences; and hence, the usual form of such tumours; for as the adjacent parts will not yield, and lend a covering, the skin is always thinned; yet I am in the habit of removing such tumours,—and some of them have been large,—without taking away a particle of the skin, and have always obtained good results. Some surgeons adopt a different course,—they take away every portion of skin; in fact, shave off the tumours, and then attempt to retain together the edges of the scalp by sutures and strapping. I speak from what I have seen. Surely, these submitted their patients to a tedious cure, together with a risk of erysipelas. I do not mean to attribute the latter to the sutures.

It is not immediately that a wound has healed after the extirpation of a tumour, that we can judge of the future condition of the parts. The lapse of months, or even a year may be required, before the stretched skin has recovered to its utmost. In the aged we must not expect, indeed we cannot have the same manifestation of physical properties of the skin that belong to early life, because it naturally becomes thin and less elastic and contractile, and here may be an exception to the rule I have ventured to lay down, and for which sufficient exception must be made. In the case under consideration I was induced, although with reluctance, to take off a portion of the lower flap; I submitted to the advice of a friend that assisted me. I am not astonished that I accepted his counsel, seeing that there was so much loose skin corresponding to so small an amount of under surface, a disproportion that I had never before witnessed. Had the operation been anywhere about the trunk, most decidedly I would not have removed any part of it; I thought there was a risk of its sloughing, the disadvantage of which would be greater in the neck and face than elsewhere. The course I adopted is the most convincing proof I can give you, that I do not state a proposition, and act up to it in every instance contrary to strong impression or conviction. Here, as in every rule of surgery, certain reservation must be allowed for the exercise of discretion and judgment, without which we shall be continually erring. I believe it was the impression of those present, that with the reduction I had made, considerably too much skin was left; but the rapid union that ensued, added to the present state of the parts, shows that such was not the case. I cannot say that I do not feel regret at not carrying out my original intentions, because I think that the case would have done well, and that I have lost an opportunity of example.

It should always be our endeavour to preserve to the skin all of its deeper layer, so that its elastic and contractile tissues may not be injured; and this will be best effected by making the incisions deep, at once reaching the surface of the tumour, a plan that also much facilitates the dissection. Without having made any observations on the subject, but judging merely from inference, I should expect the greatest restoration of distended skin in the instances of fatty tumours, where its texture is so little injured either by the abnormal growth or in the dissection, for the separation is easily effected—less, when it covers tumours surrounded with a cellular sheath, for then its circulation is, I think, generally more or less impaired—and least in the encysted tumours, over which it is for the most part thinned. In conclusion, I would say that I believe there need not be any fear as to the fate of large flaps, provided they have a proper vital supply, and are brought together sufficiently accurately, and supported by a soft compress. The swelling of them and of the subjacent parts soon effect an adaptation that will insure a successful issue.

Present state of the patient, Nov. 9.—There is yet swelling about the cheek; the upper flap has nearly lost the folds that formed in it after the operation. The lower flap is quite level. It is easily perceived, when viewing the neck, that a portion of skin has been lost. The slight amount of deformity that exists is almost incredible.

Mr. Travers, jun., had listened with great attention to Mr. Walton's paper, having operated on three

occasions on large tumours in this situation with success, and having seen the operation abandoned in other instances after it had been commenced. In one of these cases,—a large tumour connected with the occiput,—either a large branch of the occipital or the main trunk had been wounded; frightful hæmorrhage took place, sloughing followed, and the patient died. In another instance a ligature was applied on a tumour connected with the air tube. Laryngitis followed, and proved fatal in a few days. He thought that, in tumours connected with the neck and face, great allowance is to be made for fascial attachments. If the tumour stand out, be plainly moveable, and nothing covering the surface and sides but integuments, it was a case for operation; but if, on the contrary, it be lobulated, apparently subject to great pressure from fascia and run into crevices, it will take on a malignant character, and belongs to a class of tumours which surgery cannot get out. It was so in the two cases alluded to; the disease was fungoid, approaching to malignancy. In such cases the surgeon should endeavour to satisfy himself whether the tumour presented the malignant character; if it did not, the chances were it might be removed with success. Tumours in the vicinity of the jaw may appear superficial, yet when the operation is performed, the surgeon may have to go to a very great depth. In one instance this was done to such an extent, as to expose the deeply-seated parts. He would not say the parotid had been removed, but he believed that portions of that gland had been taken away in some instances. The objections to the operation for extirpation of the parotid are anatomically correct, but changes may be produced by disease, so as to admit of its removal. In operating for the removal of tumours in this situation, we must be prepared for hæmorrhage, when we go to any depth; it is generally pretty active, and of a nasty description—a welling bleeding from the bottom of a deep wound—the blood issuing from a small branch shaved off so closely, as not to hold a ligature, which may be applied repeatedly, but ineffectually. In such cases he (Mr. B. Travers, jun.) had known dressers obliged to sit up night and day for many days together, exerting pressure on the bleeding parts until the hæmorrhage was suppressed. Hæmorrhage, however, is not an occurrence to arrest a surgeon, who is acquainted with the anatomy of the parts. In two cases in which he had operated, paralysis had occurred—that is to say, ptosis, or rather an inability to close the eyelids, the angle of the mouth drawn down, and the ala of the nose collapsed. In one of the cases there was troublesome epiphora. In both instances the patients were comparatively well at the end of eighteen months or two years. There was not any inconvenience after that time. The epiphora also subsided. With respect to the removal of skin, he agreed in opinion with Mr. Walton; and always looked with a feeling of apprehension with reference to the subsequent healing, when the dissecting up of flaps was practised. Thin-skinned flaps in amputations were bad for the skin and the parts below; the process of healing went on very slowly, and there was great risk of erysipelas. In merely pedunculate tumours, it was proper to remove them with a single swoop of the knife. He had done this with a fatty tumour on the inside of the thigh, and with another tumour, also pedunculate, which hung from the margin of the anus. In both cases he removed the integuments along with the diseased growth. Mr. B. Travers then referred to the operation on Hoo Loo, which was performed some years since by the late Mr. Key. He considered the disease in that case to have been strictly a pedunculate tumour; the parts had, by its weight, been drawn down into a round stalk-like process. The operation was begun with the intention to save the cords and testes; the hæmorrhage which followed the division of large veins, on the second or third incision, caused the feeble Asiatic, if not to die on the operating table, at least, very soon afterwards. In such a case, he thought it would be better to remove all the diseased parts by a single swoop of the knife, and control the frightful hæmorrhage that would follow by means of the actual cautery. If the skin be removed in an operation, there being a large surface left, the process of healing is carried on very slowly, and there is a great additional call upon the patient's strength. This it is very desirable to avoid. He fully agreed with Mr. Walton, except as regards the removal of pedunculate tumours.

Mr. Chippendale explained, that when he spoke of the non-removal of the parotid, he did not mean to imply that portions of it could not be cut away, but that the entire gland could not be extirpated. Mr. B. Travers thought that the alterations of disease might enable it to be removed; but, in his opinion, if there were extensive disease of the gland, there would be greater difficulty in extirpating it. He saw, nine years ago, a case of medullary sarcoma of the upper part of the thigh, in which the femoral artery was involved; the tumour was neatly dissected out, and the artery exposed for about two inches in extent. No evil resulted; the part healed kindly, but the disease returned, and the patient died. In another case, which was under the care of the late Sir Charles Bell—a pedunculate tumour of the inside of the knee; it was removed, not by a single sweep of the knife, but by two small semi-elliptical incisions. Sloughing followed, and the patient died. He (Mr. Chippendale) quite concurred in the necessity for the preservation of the skin. It should be remembered that there was not an additional growth of integument, when a tumour formed beneath it, but merely a stretching of that already existing.

Dr. Daniell referred to a case where there was an apparently hard and solid tumour under the angle of the jaw. It was removed by a very careful and neat dissection, and then was found merely to contain a fluid. Had the exploring needle been used in this case, the danger of the operation might have been avoided.

Mr. Canton remarked, that there were other tumours of the neck besides those described by Mr. Walton, which presented features of great interest to the operating surgeon, *e. g.*, those formed in the substance of the thyroid gland, and even the enlargement of that body itself. The different varieties of these growths were mentioned, and the operation most likely to be beneficial in each pointed out. With respect to goitre, Mr. Canton believed, that when symptoms of cerebral congestion arose, owing to the impediment caused by a large bronchocele to the free return of blood from the head, together with difficulty in deglutition and respiration from pressure on the œsophagus and trachea, that the plan of making a subcutaneous section of the sterno-hyoid and thyroid muscles might advantageously be had recourse to; inasmuch as they materially retarded the forward growth of the tumour, and were, in such cases, found to have their fibres separated, so that as broad ribbons, they bound down the swelling at its forepart and sides, and thus induced the functional disturbances alluded to. The operation of tying the thyroid arteries was next spoken of. With reference to the tumour of the parotid gland Mr. Canton had brought forward, he believed that it was in such instances that extirpation of the *secreting* gland was supposed to have been performed; for, the lymphatic growth in its progress having produced absorption of the part in which it was embedded, the error might readily be fallen into by those who believed in the practicability of the total removal of the parotid.

Mr. Walton quite agreed with Mr. B. Travers that pedunculate tumours constituted an exception to the non-removal of skin. It was an omission on his part not to have made that exception. In Hoo Loo's case, the disease was elephantiasis, and the case came under the head of diseased skin. In reply to Mr. Canton, he would say he had intentionally avoided going into the subject of tumours of the neck generally, as it would have occupied too much time.

THE PERIODOSCOPE.

Dr. Tyler Smith exhibited two periodoscopes, one made in ivory, and the other in metal. He observed that the periods between different labours were multiples of twenty-eight days, or of the ovarian periods. Again, in cases of superfœtation, when one child was born at the full period, and the other not until two, three, four, or five months afterwards, the second parturition had a tendency to obey the same law. The periodoscope would, therefore, be useful to trace these; the ovarian period was twenty-eight days; when we got the date of the conception, by referring to the instrument, and taking ten periods after that date, we should have the date of parturition. When there is a tendency to abortion, it generally occurs at the catamenial periods; the periodoscope will teach us when that date occurs, when consequently more than ordinary care should be practised. He thought the cause of labour was an ovarian excitement at the tenth period, producing an excitement of the ovarian and uterine apparatus, which terminated in labour. The only objection to this opinion was that which considered parturition to be induced by the mature state of the fœtus. This latter opinion, however, was not borne out.

Some discussion took place afterwards, with reference to the appearance of the catamenia during pregnancy, which was supposed to depend on a congested and ulcerated state of the cervix and os uteri, the usual white discharge being changed to blood by the occurrence of the excitement attending the ovarian periods.

The meeting then adjourned.

MEDICAL SOCIETY OF LONDON.

Nov. 12, 1849.

HENRY HANCOCK, Esq., in the Chair.

CHOLERA.

Dr. Clutterbuck referred to a case of cholera which he considered important, not as showing the power of Homœopathy, by which it was treated, but its negative good qualities. He had come to the conclusion, that the employment of very active medicaments in cholera added to the danger; and that more persons were destroyed by the treatment than were saved—if any were—which he very much doubted. He condemned large doses of calomel and opium.

Dr. Crisp differed in opinion with Dr. Clutterbuck. He could not assent to Dr. Clutterbuck's opinion as to the inefficiency of medicine in the treatment of cholera, which, when taken in its early stage, was manageable.

Mr. Robarts confirmed Dr. Crisp's statement, that there was not any disease so amenable to treatment as cholera, excepting in those cases where the patients were all but dead when application was made for professional assistance.

Dr. Toogood Downing then read an interesting paper on,

THE PROXIMATE CAUSE AND TREATMENT OF EPIDEMIC CHOLERA.

Without offering an opinion on the mysterious exciting cause of the malady, Dr. Downing said, that a close observation of its history and phenomena had convinced him, that whatever its nature might be, it produces spasm of the vital organs, and that cholera should be regarded and treated as a spasmodic affection; not merely of the external voluntary muscles, but of the internal, involuntary, and vital also. He was aware that it had often been styled spasmodic cholera; this was merely on account of the external spasms, but the probability of a similar state coexisting in the internal organs had been either overlooked or disregarded. The reasons on which his opinion was founded were, 1st. The premonitory symptoms indicate spasm of the vital organs. He did not allude to the diarrhœa or sickness, but to a class of sensations due to the influence of the surrounding poison. These more resembled the effects of fear than anything else, and were frequently erroneously attributed to panic. The apparent terror is the first effect of the poison. Healthy people, not thinking of cholera, suddenly seized with violent tremors, the surface of the body was in a moment covered with profuse perspiration, and then alternating with burning heat. A sensation of sinking within, of emptiness, and sudden prostration of strength. These feelings were also preceded, accompanied, or followed by more unequivocal indications of muscular tension, such as spasms, croup, and colic. These symptoms Dr. Downing considered were all referrible to internal spasm. 2nd. The mode of seizure, which is usually *sudden*. However long the premonitory symptoms, or the preceding diarrhœa

the attack of cholera, properly so called, is instantaneous. In tropical climates, and occasionally here, there are no premonitory symptoms. The patient is struck by cholera as if by lightning. Re-action is also as sudden as the seizure. 3rd. The features of the attack are spasmodic. The action of the stomach is a cramp. Spasm in the bowels is shown by pain, evident contraction, and the force with which the evacuations are ejected. Spasm attacking the biliary and cystic ducts, causes a perfect retention of bile. The flow of this fluid, that is, the cessation of spasm, is one of the best and earliest indications of recovery. The varying nature of the symptoms is due to the fitful character of spasm. In the stage of collapse, Dr. Downing believes, that not only are the heart and great vessels spasmodically affected, but the arteries throughout the body and limbs are equally diminished in calibre. In this way the blood gorges the veins, and its watery particles are forced into the intestines to supply the rice-water evacuations, or appear upon the surface as cold clammy perspiration. Death occurs chiefly by an exhaustion of the nervous energy. The external cramps in the back and limbs are not essential to the disease, but mark its severity and true nature. 4th. No morbid appearance is sufficiently *constant*, upon dissection, to lead to the conclusion that on it depended the phenomena. If cholera be a spasm, there is no necessary organic change. The derangement is functional,—spasmodic,—and therefore leaves no trace of its existence after death. This view is strengthened by the fact, that the morbid appearances are slight in proportion to the rapidity and severity of the disease. That is, the more sudden and awful the visitation, the fewer traces of its ravages remain. 5th. The extreme irritability of the muscular fibre after death. 6th. The observed effect of the more active remedies, such as bloodletting, opium, stimulants, chloroform. We employ such in other spasmodic affections. 7th. Dr. Downing remarked, that the very same arguments employed to prove true asthma a spasmodic affection, could be applied to cholera. These are—the sensation of constriction or cramp in the chest; the co-existence of spasms in in the calves of the legs; the rapidity of the accession, and suddenness of the cessation of dyspnœa; the affection being suddenly produced by certain causes of irritation, and even by mental impressions—suddenly relieved sometimes by medicines which we reckoned antispasmodic, and the absence of organic change on dissection. Lastly, Dr. Downing considered that if this view of the subject be correct, a clue is afforded to certain hitherto obscure points in the history of cholera. Its origin in the swampy Delta of the Ganges; its progress along banks of rivers and inlets of the sea, and its devastation among a squalid, ill-fed, and crowded population. In fact, it would obey the same laws, and be promoted and retarded in the same manner as other spasmodic affections. Respecting the treatment, the author considered that the indications were, to allay the morbid excitement of the nervous system, and to release the vital organs from the thraldom of spasmodic oppression. He did not advocate any one specific remedy for this complaint, but suggested that a more extensive trial should be made of hydrocyanic acid, as he had observed the best effects follow its use in certain cases. He had administered Scheele's acid in doses of two or three drops every hour or half-hour in extreme collapse, with manifest advantage. Mr. Shea, of the Blackfriars-road, had tried the remedy at Dr. Downing's suggestion, in more than one hundred cases of cholera during the recent epidemic, and, in a letter which was read, stated his conviction that it was superior to anything he had ever before employed. He had given it to children as young as nine months old, with excellent effect, and he had never in any case found prejudicial effects follow its use.

Mr. Clarke inquired, in how many cases of cholera Dr. Downing had employed prussic acid, and how long would he persist in its exhibition, if it failed to induce re-action?

Dr. Downing replied, that not being attached to any public Institution, his opportunities for treating the disease were not extensive. He had, however, seen many of Mr. Shea's cases, besides others in private practice, and at dispensaries. His own cases had not exceeded between thirty and forty; in only one case was there no re-action, and in that the patient died. She was in the very worst stage of collapse when he was called in; he prescribed for her, and when he returned in two hours she was dead. The friends said, that after the medicine had been given, a remarkable change had occurred: evident indications of re-action were discovered, but collapse recurred, and the prussic acid ultimately failed to rouse the vital energies.

[We regret that want of space prevents us from reporting the discussion that followed.—Ed.]

CORRESPONDENCE.

CORONERS' INQUESTS.

[To the Editor of the Medical Times.]

Sir,—In your leading article of the 27th ult., relative to Coroners and medical witnesses, the concluding sentence runs:—"The claimant, however, can recover by obtaining a *mandamus* against the Coroner." Let me ask if, having been nonsuited in the County Court through the "mala fides" of a Deputy Coroner, a claimant is precluded from proceeding in a superior court. It would appear, that, through a *misplaced reliance upon a public assurance*, an error was committed in the cause Lord *v.* Wakley, by proceeding in the County Court upon an informal plaint but does the informality of such proceeding, and, in consequence, the necessarily adverse decision of the Judge there presiding, bar the "claimant" from seeking the adjudication of a superior Court on the abstract merits of the case, through a *mandamus* The opinion and advice of His Honour, Mr. Heath on Mr. Synnot summoning Mr. Mills would appear to give a negative answer.

A reply from you to this point may be interesting to other members of the Profession, even more than to myself, who, I find, are resolving, day by day, no longer to regard the gibes, nor to take for gospel the decrees of the *Lancet*.

I have the honour to be, Sir,
Your obedient and respectful servant,
Charles F. J. Lord.

Hampstead, Nov. 12th, 1849.

[The issue of the two cases referred to by our Correspondent,—viz., the case of Synnot *v.* Mills and Lord *v.* Wakley, show clearly enough that a medical practitioner cannot recover his fee from the Coroner through the agency of the County Court, unless he has received a *legal summons* from the latter; the County Court being, as we have already said, a court for the settlement of what may be termed contract claims. If, therefore, any contract or legal agreement between the disputants is not clearly established, the case must necessarily fall to the ground, and the claimant be nonsuited. But this circumstance cannot in any way prevent the suitor from seeking redress through the agency of a superior court. He can, for instance, appeal to the Court of Queen's Bench, which, acting upon the merits of the case, would grant a writ of *mandamus* ordering the Coroner to do justice, according to the powers of his office.

We refrain from making any comment on Mr Lord's case; but this we will say, that if Mr. Wakley considered Mr. Lord to be a contumacious witness, he might and ought to have committed him for contempt; failing, however, to do this, the Coroner can show no legal reason or cause why he should not remunerate the witness for his attendance at the inquest, according to the terms of the statute."—Ed. *Med. Times.*]

[To the Editor of the Medical Times.]

Sir,—May I beg the favour of your advice under the following circumstances:—

It repeatedly occurs that inquests are held in this neighbourhood, where there is not the slightest necessity for an inquiry, and the farce is gone through, apparently for the sole purpose of providing the Coroner and the constable with their fees. Now, under these circumstances, it is policy on the part of the Coroner to avoid swelling his account by extra fees, and, as a natural consequence, he nearly invariably dispenses with the evidence of a surgeon; so that, in cases where the evidence of the surgeon who has been called in to the case is absolutely necessary to ascertain the exact cause of death, the usual verdicts, "Accidental death," or "Died by the Visitation of God," are adopted. The following case will relate, and shall be glad to know if any steps can be taken to prevent such an unjust proceeding for the future.

On Monday, the 12th inst., a farmer left his house on horseback about five o'clock, p.m., to transact business at a village about half a mile distant. His habits were exceedingly intemperate, and he was in a state of intoxication when he started, between ten and eleven o'clock, for his home. A neighbour, with whom he had been drinking, accompanied him until he reached his own farm, and then left him. Between four and five o'clock on the following morning, the servants discovered their master lying within a few steps of his kitchen-door in a state of insensibility, and his horse grazing in a neighbouring field; they removed the poor fellow into the house, and laid him upon a sofa, hoping he wound soon "come round!" but, after the lapse of a few hours, finding they could not get him to speak they became alarmed and sent for his surgeon, who attended him until Wednesday evening, when the man died, never having shown the slightest consciousness from the time he was found. There was a contused wound over the left temple, and the left eye was swollen and discoloured. An inquest was held, and a verdict found without the evidence of a surgeon.

I am, Sir, your obedient servant,
Thos. Godfrey, M.R.C.S.L., &c.

[From the facts given by our Correspondent, it appears clear to us, that the evidence of a Medical man ought to have been taken in the case referred to. If such proceedings as he details are of frequent occurrence, we should advise him to obtain carefully, accurately, and minutely the particulars, and lay the whole before the magistrates for the county. If that has no effect, transmit the particulars to the Secretary of State for the Home Department.—Ed. *Med. Times.*]

POOR-LAW MEDICAL REFORM.

[To the Editor of the Medical Times.]

Sir,—Although there has been little said in your Journal lately respecting the movements of the Poor-law Medical Officers, in the endeavour to obtain some redress of their grievances, I trust that their efforts have not slackened, but that all are busily employed in obtaining signatures to petitions, each in his respective locality, for presentation to Parliament, by the town or county members. I would suggest, that each secretary of a district, or other medical officer, should either have a personal interview with his representatives in Parliament, or correspond by letter, placing the subject in its true light, so that none may be able to plead that he is unacquainted with the wrongs of those medical gentlemen who are in office under the Poor-law. There is no doubt, but that by obtaining signatures to petitions in every town and neighbourhood throughout the kingdom, we should be able to succeed in procuring, if not sufficient, yet a better remuneration for our services than the Guardians at present allow. If each member of the staff will assist, we shall be victorious; and for the honour and dignity of the Profession, it is to be hoped that no one will withdraw his cordial co-operation with his brethren. It is to be remembered, that if the votes of medical men were withheld from those candidates for Parliamentary seats, who will not give a fair attention to the demands of their constituents, the election in many cases would be lost, so that it is clear that a hearing would not be refused by a politic member. I find, that in this part of the country, the public are generally willing to sign the petition which I have drawn up, and I now have *nine* petitions in the course of signature, to be presented to Parliament at an early period.

I should be glad to see the agitation which has begun continue until our objects are gained, for by importunity alone will the requisite concessions be granted.

I am, Sir, your obedient servant,
George Frederic Wills.

Crewkerne, Nov. 14th, 1849.

[We cordially recommend the example of our respected Correspondent for imitation by the Poor-law staff throughout the country. The most efficient mode of agitating the question is by influencing the votes at the elections; and we think, that if members of Parliament were made fully acquainted with the political power which the Profession are capable of exercising through their patients, there are very few members who would be indifferent to the interests of this highly useful and important section of the Profession.—Ed. *Med. Times.*]

THE USE OF CREASOTE IN BURNS AND SCALDS.

[To the Editor of the Medical Times.]

Sir,—The success attending the use of creasote in burns and scalds induces me, in case the treatment

should be new, to give, through your columns, an opportunity of its efficacy being further tested.

I have constantly employed it since I have been resident at the Queen's Hospital, and my conclusion is, that it is superior to every other application. It removes the pain,—it prevents the offensive smell always attending the old mode of treatment,—and the cure is much more rapid. Where the cuticle is unbroken one application is generally sufficient; and where it is destroyed, the cure is effected much sooner than by the common mode of treatment.

The mode of application is to brush the parts over with a feather once a day, and to prevent them from contact with the bed-clothes. No other application is necessary or proper, in conjunction with it. In burns of the face, by the explosion of gunpowder, its curative power has been marked by universal success.

My experience has not yet been sufficient to assert its superiority over every other treatment; but quite sufficient to justify a more extensive trial of its efficacy. Of its *modus operandi*, I am not sufficiently satisfied to offer an opinion.

I am, Sir, your obedient Servant,
J. B. STEWARD, M.D.

Queen's Hospital, Birmingham,
Nov. 16, 1849.

FELLOWSHIP OF THE COLLEGE.

[To the Editor of the Medical Times.]

SIR,—As you have had the kindness occasionally to give publicity to my letters, I beg to offer a few remarks on a matter which you have noticed in this day's publication, as follows:—"The Fellowship.—We understand that in consequence of the new regulations from the College coming into operation in the ensuing year, making it compulsory on all junior candidates presenting themselves for the honour, to undergo examinations in classics and mathematics, a larger number than usual will present themselves for examination at the ensuing meetings on the 4th and 6th of December."

The proceedings of the Council of the College have been marked of late as being altogether unjust; and I need not, I think, try to enlighten your readers when they already are so, or ought to be, on this matter.

I shall, therefore, confine myself to the Fellowship. All admitted as fellows hitherto have been examined only in anatomy, physiology, and surgery, or have been admitted because, through party influence, they have held what is called honourable posts in large hospitals. After the lapse of years, a few years only, a new regulation is introduced, *i.e.*, a classical and mathematical examination must be passed.

With respect to the last subject, I will not say one word in opposition to the necessity and use they may be to those who are connected with a learned profession; but I will say that they are of second importance to a thorough knowledge of the art and science of physic and surgery. In the practice of these arts and study of these sciences the classical knowledge, *i.e.*, the knowledge of Greek and Latin, is little used. Why, therefore, it may be asked, require candidates to be examined in these at all, at the late period, as will be soon required? A man at twenty-six will have left school generally ten years before he attains that age, and, consequently, unless he keeps up his Greek and Latin, by pouring over some learned work in these dead languages month after month for the ten years in question, he will have forgotten almost how to translate; and, therefore, if he wishes to present himself for examination for fellowship, he will have recourse to the readiest means for getting up his classical knowledge, which will be fleeting.

Now, in a former letter on medical education, I have stated that a man who enters the Profession ought to undergo a classical examination as soon as he leaves school, and have done with this bore for ever. Then, and then only, will he be fit to follow the prescribed routine of study with pleasure, and when he has passed his examination for medical honours he will be better prepared for the practice of his Profession.

By these remarks I wish to show, that it is unjust to ask those who have previously passed the College, even up to the present year, and it may be beyond, to undergo a classical examination such as will be required. I have no doubt that many who would have availed themselves of the Fellowship, had the examination to be conducted as heretofore, will now be prevented. They will not rub up Greek, and Latin, and mathematics for such a bauble. I moreover do not hesitate to assert, that many a man will be rejected for his classics, when he is thoroughly competent, as a surgeon, to be recognised as a Fellow. Still more, I assert, that many a hard-working student, when he passed his examination for Member, would have been able to have undergone the examination for Fellow, and passed it without the least difficulty. Still, those who passed in the successive years of 1846, 47, 48, and 49, will be unable to obtain the honour of a Fellowship, without undergoing a classical examination, which ought to have been instituted shortly after he left school, when his mind was fresh with the dogmas of the ancients.

If an examination was instituted in reference to the modern languages, as French and German, which would be far more useful, far more easy, far more agreeable, it would be preferable. A man then could visit France or Germany, and, while he was learning these languages, he could, at the same time, be improving himself in the Profession; and not only so, but intercourse of this kind between the students and Professors of different nations would be productive of friendship, and assist in bringing about that peace era, which is so much desired, and now so eloquently advocated by the ablest men of the present day. Hoping this imperfect letter will have effect in causing that state of things, or at least assisting, which is so desirable in the College of Surgeons of England,

I am, Sir, &c.,

Nov. 10, 1849. A REFORMER OF ABUSES.

COMMUNICABILITY OF CHOLERA.

[To the Editor of the Medical Times.]

SIR,—After reading Mr. Ebsworth's paper on the "Communicability of the cholera poison from man to man," I was induced to send you the following cases, hastily thrown together, as confirmatory of that gentleman's opinion.

The disease was first brought into my district by John Sandoe, a miner, who took the disease from some members of his son's family, where he lodged about seven miles from his own, a detached house having an open though low and damp situation.

Case 2.—Elizabeth Hore, aged 19, a strong, stout and healthy young woman, lived with her parents in an isolated house, about 500 yards from Sandoe's was employed by Sandoe's wife to work in the fields to assist her in the performance of her household duties, and to occasionally nurse her husband; whilst so engaged, took the disease and died.

Case 3.—Joseph Sandoe, aged 35, son of Case 1, lived with his parents, and occasionally waited on his father, was seized with vomiting, purging, and cramps, on Saturday, September 1, at 6 a.m. I was not called to see him till 7 p.m., when I found both them and son in the same bed collapsed; the father recovered, but the son died at 8 p.m.

Case 4. Jane Hore, mother of Case 2, whilst washing the clothes and bedding her daughter died in, was seized with cholera and died.

Case 5.—Jane Sandoe, wife of Case 1, was seized with cholera, September 3, and died in 76 hours. I may state that this woman had not gone into the dormitories after her son died, but was removed into a barn.

Robert Woolcock, who lived in an isolated house, situation low and damp, was seized with diarrhœa on the 26th September. He took no medicine till October 4, when he was seized with vomiting and cramps, and died on the 5th. His sister, Agnes Northay, nursed him during the collapsed stage of the disease, and remained in the chamber nearly an hour after he died. She was then, and up to the night of the 8th, in perfect health, when she was seized at her own house, a mile and a half from Woolcock's, with vomiting, purging, and cramps, and was collapsed in twelve hours; re-action, however, took place, and she continued to improve till the morning of the 11th, when vomiting and purging recurred, and she died about 5 p.m. Her only nurse was her sister, Mary Woolcock, who lived about 500 yards off, in an elevated and dry house; took the disease during the night of the 13th, and died after about twelve hours' severe suffering.

—— Burrows having been in communication with a person from Mevagissey during the prevalence of cholera there, was seized with cholera two days after, viz., Friday (noon), 31 August, and died without medical relief, at a quarter to 12 p.m. On the 4th September, the mother-in-law of the deceased, who lived about a mile and a quarter distant, and had had no communication with the family for weeks previously, came to the house in her usual health, and whilst washing the clothes and bedding, was seized with cholera about 2 p.m., and died ere I reached the house. The husband also took the disease, but recovered.

The old woman's clothes were given to another old woman, who lived about a mile distant, and who kept them tied up for three or four days; and, whilst in the act of washing them, was seized with cholera, and very quickly died. With the etiology of the disease I have nothing to do at present.

That the disease is contagious and infectious when in the collapsed stage, I have no doubt, and that it may be communicated from "man to man" by a body dead of cholera, or by the bed clothes which have been saturated with the discharges from a cholera patient, is (to me at least) equally certain. Apologising for the length to which I have gone,

I am, Mr. Editor, yours faithfully,
JNO. MOYLE.

Chacewater, Nov. 5, 1849.

[To the Editor of the Medical Times.]

SIR,—On reading the opening paragraph of Mr. Ebsworth's lecture, in your last week's number of the *Medical Times*, in which he, with so much self-complacency, disposes of the deductions of the Board of Health, by "his experience of the last few weeks leading him to the conclusion that these deductions are fallacious, and their reports prejudicial to the public weal," I fully expected to find some strong facts in support of the opinions so unhesitatingly advanced. In this I was mistaken; for, on the contrary, his further statements are but a corroboration of the views entertained by the Board of Health, not one fact advanced militating against the epidemic character of the disease. The first case mentioned is that of Robert Stainforth, who visited Hull, where the epidemic was raging: he inspired the atmospheric poison, went home and died of cholera; "but others of his family who nursed him in his illness did not take it; no, perhaps a higher Power rewarded their assiduity and tenderness, and preserved them." The plain truth of this is, the disease not being contagious, and the epidemic not having extended to this place, no fresh cases occurred. The atmosphere here was pure, and the people nursing him did not inhale a similar atmosphere to that which caused his death. The next case he mentions is that of William Puiket, residing at Bulwel, who is attacked with cholera and dies. "How he took it, heaven knows." Why, the epidemic had come, the poisonous atmosphere penetrated his dwelling, and the dwellings of others, and death after death ensued, showing most distinctly the epidemic character of these attacks. He goes farther, and gives a yet stronger proof of the epidemic and non-contagious character of this outbreak,—"A man *passing by* the above houses daily to his dinner *takes the disease home in his clothes*, gives it to his family, two of whom die speedily!"

Dr. Clanny, in a communication of his, in your Number for October 27, assumes an endemic character for the disease; but it is difficult to make out whether by endemic he does not mean contagious. In my opinion, his statements in support of the contagious nature of cholera, are as fallacious and inconclusive as Mr. Ebsworth's. The disease assumed a sort of endemic character in Alnwick, being confined to a particular part of that town, persons visiting which part, either to see their dying friends, to wash the clothes of the sick, to coffin the remains of those who were dead, or merely passing through the vitiated atmosphere of the streets, have taken the disease after reaching their homes, removed from the seat of the epidemic; have died in their abodes surrounded by their relatives and friends, and have left no trace of the disease behind. These are distinct facts against the theory of contagion.

In Alnwick, the cholera broke out suddenly in the night of the 22nd of September, in different parts of the district already alluded to, and ten persons died in the course of the following day. Thomas Wood, of Lesbury, mason, was working in that part of Alnwick, and returned home to Lesbury, three miles distant, on the eve of that day, and in good health. Cholera attacked him through the night, and he died in a few hours. None of his friends nor attendants took the disease, nor has there been another case in Lesbury.

Alexander Armstrong attended his mother's funeral. She lived in Clayport-street, Alnwick, but died of paralysis. On the 24th of September he returned home to Amble, distant ten miles. On the night of the 26th he was attacked with cholera, and died in ten hours. The room in which he sickened and died was the sole apartment for himself and family, consisting of nine persons, yet none of these took the disease, nor any of the neighbours.

Ralph Ewart, his brother-in-law, attended the same funeral, returned home to Ancroft Moor, took the disease, and died nearly at the same time,—his solitary room containing also nine inmates. No other

case of cholera ensued. Sailors have come from an infected port into the port of Amble, and died there of cholera, without communicating the disease to any of the neighbouring sailors.

I saw much of the disease in the Old College of Surgeons' Hospital in Edinburgh in 1831. I have seen something, and heard more, of it in this neighbourhood, at this time, but have never been able to discover a well-authenticated case of contagion. The contagious or non-contagious character of cholera is a question of vital importance; and the contagionists must bring forward something more defined and distinct than the vague letters of Dr. Clanny and Mr. Ebsworth, before they can shake the opinion of the Profession as to the deductions of the Board of Health.

I am, Sir, your obedient Servant,
THOMAS LEITHEAD, M.R.C.S.E.
Warkworth, Northumberland.

SALINE TREATMENT OF CHOLERA.

[To the Editor of the Medical Times.]

SIR,—I have for some time intended to communicate to you the results of my experience regarding cholera, as it has fallen under my observation this season in Kingston, but circumstances have occurred to prevent me up to the present moment, when the perusal of Sir Alexander M. Downie's interesting letter, in your Number for September 22nd, from its seeming correspondence with my views, makes me feel it to be my duty to lay them before the public, through the columns of your widely-circulated periodical.

My experience in the treatment of Asiatic cholera, during its prevalence in Malta, in 1837, was sufficient to shake my confidence in the use of calomel in large doses in that disease. I had also reason to view with distrust the administration of opium, brandy, and other vaunted remedies, and I resolved, in my own mind, that if ever I should again be called to combat this formidable enemy, I should chiefly trust to the internal and external use of cold water, until some more probably efficacious plan of treatment should approve itself to my judgment.

I was first led to form a favourable opinion of the use of Dr. Stevens's saline medicine by the reports concerning its successful employment in the cholera of 1832, in the Coldbath-fields prison, contained in various numbers of the *Medical Times*; and in the very first case of cholera which occurred in this city, (and the first, I believe, which appeared in British North America this year,) as far back as the 13th of January, 1849, I gave a fair trial to the same salts, but in different proportions from those used by that eminent physician, viz., sesqui-carbonate of soda, 15 parts; chloride of sodium, 5 parts; and chlorate of potash, 1 part; and so gratified was I with the result, in that case, and in another, which occurred on the 3rd of May, that I some time after, and when the disease had become epidemic, addressed a letter to the editor of the *Argus*, one of the Kingston newspapers, recommending this remedy to the attention of the Profession, and giving directions for its use.

On the 27th of May the disease broke out in a village contiguous to Kingston, in a most aggravated form. The locality was one peculiarly obnoxious to disease, from vast accumulations of decomposing animal and vegetable matters outside the dwellings, the dirty and dissolute habits of the people, and neglect of ventilation. Nine-tenths, probably, of those who first suffered from the disease in this place died, and medicine was of no avail in lessening its fatality, or checking its progress. A violent thunder-storm was succeeded by a pause; and about a month afterwards, the cases which occurred were of a less untractable character. The plan which I followed in the treatment of the disease was the following:—To give three drachms of the saline powder, as above described, dissolved in a pint of cold water, in divided draughts, from a quarter to half a pint, every quarter of an hour, half hour, or hour, according to circumstances, premising a pill containing, of calomel, ij grs. capsicum, i. gr.; and opium, one-sixth of a grain allowing, at the same time, cold water for drink, or directing small pieces of ice to be taken into the mouth and permitted to dissolve gradually. (This mode of allaying thirst I preferred latterly, from a belief that it was more favourable to absorption.) If the extremities were affected with spasm, they were to be rubbed gently with a piece of ice till it melted, and the water thus produced was to be used in the same manner, so as to urge its admission into the absorbents by assiduous friction with the hand. In every case, as far as I can remember, with two exceptions, I interdicted the use of wine, spirits, and hot drinks, and both of these terminated fatally. Endeavours were used to obtain ventilation as far as practicable, and a light covering only was thrown over the body. Such was the general plan of treatment followed by me, and the basis upon which I uniformly acted. I did not, however, confine myself invariably to these means. In some instances the pill of calomel, capsicum, and opium, was repeated at intervals of two, three, or four hours. In some cases I administered Dr. Graves' pill of acetate of lead and opium, with the addition of a grain of capsicum, but not often; and in one case only of a drunkard, as far as I remember, with marked benefit. I sometimes gave quinine in large doses, united with turpentine, with advantage, where there was reason to apprehend the existence of worms. This mode of treatment I found successful in two children. Quinine and iron, as recommended by Dr. Bell, seemed also to be advantageous in a few instances. Packing in the cold wet sheet was resorted to in six cases of children, under twelve years of age; of whom four recovered and two died.

Towards the middle of the epidemic, (which commenced on the 27th of May, and terminated about the middle of September,) I began to administer the saline, combined with tartaric acid, in the state of effervescence, in the proportion of a drachm and a half of the powder, consisting of the ingredients above mentioned to fifteen grains of tartaric acid, each dissolved in about a quarter of a pint of water, and intermixed in the usual manner.

I think I may, within bounds, say that I have had 77 cases of real cholera under treatment, of which 24, or 30 per cent. died. Twenty of this number resided in houses badly ventilated, or exposed to noxious effluvia, or both, and all were debilitated from infancy or old age, insufficient nutriment, intemperate habits, uncleanliness of person, or some other cause. Of the total number of cases, I consider 41 to have been in a state of collapse, of which 22 proved fatal. Two died of consecutive fever, leaving 17 recoveries from collapse.

I find that I have used twelve pounds of carbonate of soda, three pounds fourteen ounces of muriate of soda, and twelve ounces of chlorate of potash, during the late epidemic, which would give nine drachms of the compound powder to each of the 77 cases attended by me, or three pints of the solution, (probably a pretty near average,) and leave 341 three drachm doses (a large proportion of which have been given with tartaric acid in the state of effervescence), for cases of premonitory symptoms, or symptoms of mere dyspepsia, none of which probably terminated in cholera. Had not these precautionary means been used, it is impossible to say how many of these cases, which may have amounted to a very considerable number, (but I cannot say precisely, as I kept no register of them,) might have become confirmed cholera.

I can hardly entertain a doubt that great benefit was derived from this medicine as a prophylactic. In my own family, it was familiarly used by the children, and was called the "fizzing powder." We placed great confidence in it, and I frequently had recourse to it, when fatigued, and suffering from sinking sensation in the stomach. Its use was instantaneously followed by a pleasant exhilarating feeling, pervading the whole system, from the centre to the extremities, and its presence in the blood was speedily announced by the secretion of mucus from the lungs having strikingly saline taste.

A symptom of cholera which I have seen noted by only one writer upon the disease, Mr. Busk, Surgeon of the Dreadnought, (*Medical Times*, March 1 1849, p. 386,) seems well worthy of careful investigation by future labourers in this department. I refer to the difference of temperature, as indicated by the thermometer, in the mouth and axilla. In three cases I found the following results:—

1st. In a woman, aged 22, who fell into collapse, and was about twenty-five hours without the pulse being perceptible, and forty-eight hours without secretion of urine, but recovered,—thermometer, in the mouth, 82°; arm-pit, 90°, first visit; and continued so for twenty-four hours, when it rose to 94° in both situations.

2nd. In a man, aged 32: first day, thermometer, in the mouth, 84°; arm-pit, 91°: second day, upon which the disease terminated fatally, in the mouth 82°; arm-pit, 94°.

3rd. In a man, aged 50, a drunkard, who died after six days' illness,—thermometer, in the mouth, 84° arm-pit, 92°; the greatest difference in favour of the cutaneous surface being 12°, and the smallest 8° and the temperature of the mouth and axilla corresponding with each other upon the subsidence of the disease.

These facts seem to possess a peculiar interest, when taken in conjunction with the following observations of Dr. Bell:—"If one apparently dead of cholera became warm from the extremities upwards, no doubt of death can exist, and no chance of recovery; if this does not take place—on the contrary, if warmth proceed from the trunk to the extremities, there is a possibility that he may be alive." (*British American Journal of Medical Science for March*, 1849.)

I have treated cases of collapse very much upon the principle of frost-bite; and I have had no cause to exchange cold for hot applications to the extremities. It may be noticed, that ice produces a vivid red colour of the skin of some duration, such as I do not remember to have seen from hot applications in this disease. Blueness of the skin I have not remarked in the collapse of infants.

En passant, I would solicit attention to the question, whether cholera may not be divisible into varieties, as connected with hysteria, vermes, &c., each of which may possess distinctive symptoms, and require a peculiar mode of treatment. Lumbrici have been evacuated by vomiting and stool in several instances which have come to my knowledge, and one old woman who recovered from a most severe form of the disease, passed a large number of them when convalescent.

I attended many cases of the "Emigrant Fever," as it was termed, in this place in 1847. It prevailed chiefly in the same suburbs as the cholera of this year; but the greatest number of fatal cases did not occur precisely in the same houses or streets. About one half the inhabitants of three houses in one street fell victims to that malignant epidemic; but I have not heard of any persons dying of cholera within the same walls this year. Nearly the same proportion of deaths occurred in my practice in the epidemics of typhus and cholera.

Upon the whole, after a dispassionate review of both these epidemics, in which I have borne a part, it seems to me, that the description of persons who have been the greatest sufferers has been very much alike in both. Need I attempt a delineation of them? They possess nearly the same features everywhere. They are such as are crowded together in filthy dwellings, breathing an impure air, whose bodies are hardly ever washed, whose food is spare and unwholesome, whose drink is often intoxicating, whose clothing is ragged and polluted, whose labour is at times extreme, but who frequently can obtain none, and consequently no means of subsistence; with pallid and shrunk, or bloated and livid faces, diseased viscera, emaciated and tremulous, or tumid and congested limbs; their minds corresponding with their bodies, corrupt by nature and habituated to vice, many of them "having no hope and without God in the world."

Sanitary reform is now loudly called for, and it is none of the least of your merits that you do so much to promote this noble cause of genuine philanthropy.

I remain, Sir, your obliged servant,
JOHN MAIR, M.D., Staff Surgeon, 2nd Class.
Kingston, Canada West, October 11, 1849.

[The statements respecting the saline treatment of cholera are very contradictory, but many of the failures of which we hear may arise from its being mixed up with other modes of treatment. We think it possible, that if Dr. Mair had trusted entirely to Dr. Stevens's method, the results would have been different.—ED. *Medical Times.*]

THE NEW FRENCH MINISTER OF COMMERCE.—The new Minister of Commerce under Louis Napoleon, in France, is Dumas, the celebrated chemist, head of the Faculty of Sciences, Professor at the Sorbonne, and Professor of Organic Chemistry at the School of Medicine. There would be considerable astonishment in England, if Faraday were appointed President of the Board of Trade.

ETHER.—A young lady in Berlin has recently lost her life from the exhibition of ether, prior to the extraction of a tooth. Every effort to restore animation failed. The operator was the dentist himself. It is said, that the punishment for the use of such means by an unqualified person is very severe in Berlin: in that respect the Prussian authorities act wisely. There should be a difference between the qualified and the unqualified practitioner. Unfortunately, such is not the case in England.

HYDROPHOBIA.—The *Monmouth Merlin* states, that a cow belonging to Mr. Rosser, of Penalt, died lately quite rabid. It was a milking cow, and, as Mr. Rosser's family had partaken of its milk, they all removed to the seaside for immersion in salt-water!

HEALTH OF LONDON DURING THE WEEK ENDING NOV. 17.

The total number of deaths registered from all causes during the past week, were 878, being a decrease on those of the previous week by 15, and showing also a diminution on the average of 5 previous years of 284. This number gives a proportion of 1 death to every 2512 inhabitants; and the Returns of ten years show that this low rate of mortality is unexampled at this season of the year, the increase of population considered. The mortality in the early part of November has usually ranged from 900 to upwards of 1200 deaths. The mortality from phthisis and bronchitis seems to increase, and is now about the average; and influenza was fatal to 4 young persons and 1 adult. The principal decrease occurs under the head of zymotic diseases, the deaths being under those of a five years' average by 103.

The mean height of the barometer in the week was 29·863. The reading at the beginning of the week was 30·17 in.; it increased to 30·20 in. by 10 h. a.m. on the 11th; decreased to 29·47 in. by 3 h. p.m. on the 14th; and increased to 30·19 in. by the end of the week. The mean temperature of the week was 45·2; on Saturday it was at its lowest, 39·3; and at its highest on Sunday, 50·5. The result on the week is a plus of 1·0 over the average of 7 years. The mean direction of the wind was S.W. till Wednesday, and N.W. from Thursday. The difference between the dry and the dew point temperature was 4·2. The highest temperature of the water of the Thames, for the week, was 48·3, and the lowest 45·4. No electricity was indicated throughout the week.

MORTALITY TABLE,

(Metropolis.)

For the Week ending Saturday, Nov. 17, 1849.

CAUSES OF DEATH.	Total.	Average of Five Autumns.
ALL CAUSES	878	1162
SPECIFIED CAUSES	876	1158
Zymotic (or Epidemic, Endemic, and Contagious) Diseases	204	307
SPORADIC DISEASES:		
Dropsy, Cancer and other Diseases of uncertain or variable seat ...	43	49
Tubercular Diseases	166	178
Diseases of the brain, Spinal Marrow, Nerves, and Senses	108	125
Diseases of the Heart and Blood-vessels	33	40
Diseases of the Lungs, and of the other Organs of Respiration	154	211
Diseases of the Stomach, Liver, and other Organs of Digestion	50	65
Diseases of the Kidneys, &c.	7	11
Childbirth, Diseases of the Uterus, &c.	6	10
Rheumatism, Diseases of the Bones, Joints &c.	8	8
Diseases of the Skin, Cellular Tissue, &c.	5	1
Malformations	2	4
Premature Birth and Debility ...	21	23
Atrophy	21	18
Age	28	57
Sudden	11	12
Violence, Privation, Cold, and Intemperance	29	36
Causes not Specified	2	4

The following is the number of Deaths occurring from s of the more important special causes:—

Apoplexy......	22	Heart	31	Phthisis	
Bronchitis ...	62	Hooping-cough	22	Pneumonia ..	
Cholera........	8	Hydrocephalus	22	Scarlatina	
Childbirth	3	Influenza .		Small-pox	6
Convulsions...	32	Liver	11	Stomach	3
Diarrhœa......	21	Lungs	4	Teething	8
Dropsy	18	Measles	24	Typhus	12
Erysipelas ...	13	Paralysis	22	Uto:	

BIRTHS AND DEATHS.

	Births.	Deaths.	Births over Deaths.
Males	613	427	186
Females ..	613	451	162
Total..	1226	878	

METEOROLOGY OF THE WEEK.

	Mean of Barometer.	Mean of Thermometer. Dry.	Ditto. Dew Point.	Difference between the Mean Temperature of the day and the same day on an average of 7 years.	General Direction of Wind. A.M.	General Direction of Wind. P.M.	Amount of Horizontal Movement of the Air. Miles.	Rain in Inches.	Electricity.*
	30·164	50 5	48 2	+ 5·2	S.	S.W.	85	0·00	No electricity was shown during the week.
Mond[ay]	30 004	45·9	44 7	+ 1·1	S.W.	S.S.W.	85	0·00	
Tuesd[ay]	29 753	50 9	[illegible]8	+ 6 6	S.	S.S.W. & W.S.W.	150	0·10	
Wedn[esday]	29·501	45 7	40·6	+ 1·7	S.W.	S.W.	130	0·30	
	29·563	42 1	37 1	— 1·7	W.S.W.	N.W.	145	0·15	
	29·907	42 0	34·8	— 1 7	N.W.	N.N.W.	145	0·0	
	30·119	39 3	33·0	— 4·3	N.	N.N.W.	95	0 00	
	29·863	45·2	41·0	+ 1·0			SUM 835	SUM 0·53	

* In this Column, A. stands for Active; N. for Negative; and P. for Positive.

MEDICAL NEWS.

APOTHECARIES' HALL.—Names of Gentlemen who passed their examination in the Science and Practice of Medicine, and received Certificates to practise, on Wednesday, 14th Nov., 1849:—Richard Allanson Gaskell, St. Helen's, Lancashire; George Alfred Sheppard, Worcester; David Purdie Maclean, Burton, Westmorland; Lionel Smith Beale; Philip Henry King, Grantham, Lincolnshire; James Wannes Saunders, Aylsham, Norfolk; William Henry Welsh, Eccles, Lancashire.

ROYAL COLLEGE OF SURGEONS.—The following gentlemen having undergone the necessary examinations for the Diploma, were admitted members of the College, at the meeting of the Court of Examiners on the 16th instant:—Messrs. Thomas Pettit Wright, Chatteris, Cambridgeshire; John Anderson, Old Kent-road; Herbert Taylor Reade, Quebec; Edward Egan, Dublin; Armstrong Todd, Dublin; Benjamin Webster, Morley-lodge, near Leeds; James Shepherd, Northallerton, Yorkshire; William John Tennant, Dublin; and Edward Golledge Pitt, Brunswick-place, City-road.

MEDICAL BENEVOLENT FUND.—We have received the following Circular, to which we desire to give as much publicity as possible:—

"Newport Pagnell, Nov. 6, 1849.

"MY DEAR SIR,—I beg to inform you, that a General Meeting of the Subscribers to the General Medical Annuity or Relief Fund Society will be held on Monday, November 26th, 1849, at four o'clock, at the Hanover-square Rooms, London, and I am especially to request your attendance. The business for which that meeting is convened is of the highest importance. An elaborate Report has been prepared by the Committee, and now forwarded to you; and, in accordance with the recommendation contained therein, it is intended to propose—

'1. That all rules and regulations hitherto in force shall be rescinded.

'2. That the designation of the Society shall be changed to the National Medical Annuity and Relief Fund Society.

'And 3. That a Provisional Committee be appointed, to frame and organize the Society on the plan sketched out in the Report.'

"Should it unfortunately happen that you cannot favour me by your presence on this occasion, may I request a line from you expressing your opinion of the proposed arrangements, and especially to permit me to enter your name as a member of the Provisional Committee to be then formed.—I remain, my dear Sir, yours very faithfully, EDWARD DANIELL."

[We earnestly entreat our readers to attend this meeting, at which we understand matters of the first importance will be discussed.—ED. *Med. Times.*]

JOHN HUNTER, F.R.S.—Captain Sir Everard Home, Bart., having presented an original drawing by Sir Nathaniel Holland of this distinguished physiologist, to the Council of the Royal College of Surgeons, those gentlemen lost no time in placing it in the hands of Mr. Maguire, who has produced an admirable *fac simile* of the illustrious original, which is allowed by the few remaining friends of Hunter to be a very faithful likeness of the founder of the Hunterian museum. We have no doubt the Profession will agree with us, that great credit is due to the Council for bringing out this portrait of a man to whom we are all so much indebted. Mr. Stone, the librarian of the College, is also continuing his series of portraits of distinguished living medical men. We have just received those of Mr. Henry Hancock, Surgeon to the Charing-cross Hospital, and President of the London Medical Society, and his colleague at the hospital, Mr. John Avery. Both are faithful likenesses of the originals, particularly that of Mr. Avery, and are well calculated to increase the reputation of Mr. Maguire.

IMPORTANT SANITARY EXPERIMENT WITH PEAT CHARCOAL.—The town of Windsor having experienced the fatal effects resulting from want of efficient drainage, has resolved to take most decisive steps for guarding against future evils. The local Board of Health having determined on the plan proposed by Mr. Jasper Rogers for their sanitary improvement, as well for its chemical as its commercial advantages, have placed that gentleman in communication with Capt. Vetch, R.E., with the view of the drainage being adapted to answer all purposes. A complaint being made to them by Mr. Lamb, of Peascod-street, that his house was scarcely bearable from the horrid effluvium that filled it, several members of the Board, in company with Mr. Rogers, proceeded to inspect it. The stench was described as most offensive, and the paint was perfectly discolored from the sulphuretted hydrogen emitted. The inmates must have been inured to it by degrees, or life must have been sacrificed. Two of the inspectors suffered for several days subsequently, from general derangement of system and irritation of throat. The fetor arose from a large cesspool at the back of the premises, the odour from which appeared to be drawn up by capillary attraction, and the heat of the chimney, to the house in question; the cupboards on each side of the chimney were disgustingly offensive. Mr. Rogers was requested, if possible, to purify the house, until the origin of the nuisance could be removed. Prepared peat charcoal was placed against the walls by his direction, and in half an hour after the operation the stench was removed, and the atmosphere rendered pure. The gratitude and astonishment of the inmates were great. They had for some time been suffering under fever and the usual distressing circumstances attendant on a vitiated atmosphere. Mr. Rogers strongly advises the application of similar charcoal to churchyards in close localities, and wherever danger is to be apprehended from the escape and admixture of any deleterious gases with the air.

CHURCHYARD DESECRATION.—A Committee appointed by the directors of the poor of St. Pancras, have been taking evidence with respect to the desecration of graves practised in St. Giles's Cemetery, adjoining their workhouse. The witnesses who were examined were persons connected with the workhouse, and they detailed facts similar in all respects, with respect to the desecration of the dead, to those recorded by Mr. Walker in his "Gatherings from Graveyards." The books of the Cemetery, it was stated, showed, that within the last three years and a half no less than 10,000 bodies had been interred there, 3000 of which had been buried within the last six months. The Report of the Committee added, that the extent of ground was little more than an acre. The Directors have resolved to appeal to the Board of Health to close the burial-ground of St. Giles.

THE WELLS IN MARYLEBONE PARISH.—An application has been made by the Marylebone Vestry to the new Commissioners of Sewers, to repair the damage done by the late Commissioners, who, by their system of flushing the sewers, have caused the sewer water to burst through and poison a well at the workhouse, one in Newman-street, and two in Wells-street, Oxford-street; the consequence being, that severe illness followed in some instances from drinking the water. Specimens of the water were exhibited at the meeting of the vestry: it was of a dirty-greenish colour, and looked exceedingly filthy.

THE TEA-PLANT.—The cultivation of the tea-plant has been introduced into South Carolina, U. S., and has proved successful to a certain degree. Dr. Smith, who introduced it, is of opinion that in fourteen of the States it could be successfully cultivated. One acre of ground will yield 547 lbs.: 111,520 acres of land, therefore, will supply sufficient tea for Europe and the United States.

SALE OF POISONS.—In Ashton, the sale of poisons is openly carried on in several public-houses. The weekly sale of narcotic drugs, such as Godfrey's cordial, soothing syrup, &c., by fifteen vendors, is said to be, on the average, six gallons, two quarts, and one pint and a half. In Preston, twenty-one druggists sold, in one week, 28lbs., 5oz., 5dr. of Godfrey's cordial; 18lbs. 4oz. of infant's preservative; 16lbs. 9oz. of syrup of poppies; 1lb. 1oz. 6½dr. of opium; 7lbs., 8oz., 2dr. of laudanum; 9oz. of paragoric, making a total of 68lbs., 1oz., 5½dr. of narcotic drugs. The " pre-parations are only given, it is said, to en ble the mothers to work t the factory." They do so, by narcotising infant that their health is destroyed, and very often death follows th unintentional -hibition of too large do The sale of poisons ought to be placed u de re restrictions. It is horrible to contemplate the ount of mischief that every day follows their te asy sale at present. The poisonings in Essex and Norfolk give fearful evidence of the readiness with which the most deadly poisons can be procured, while the immense increase in the number of murders shows, that the fear of death at the hands of the executioner i navailing to deter persons from the commission of crime.

ALLEGED DEATH FROM IMPURE VACCINE LYMPH.—An inquest has been held at Clerkenwell, on the body of an infant four months old, who was alleged to have died from the effects of impure vaccine lymph. The verdict returned was, "That the deceased died from erysipelatous inflammation, which had been produced by a puncture on the left arm for vaccination, and they (the jury) were of opinion, that there was a want of sufficient care on the part of the operator." The Coroner was Mr. Wakley.

INDIAN APPOINTMENTS.—Dr. Montgomery, late of the Bombay Medical Board, and Superintending Surgeon, J. Doig, return to England. Dr. Boyd, Medical Store-keeper, has succeeded Dr. Doig as Presidency Superintendent Surgeon. Dr. B. P. Rookes, Garrison Surgeon, has been appointed an Officiating Superintending Surgeon, and posted to the Southern division, during the absence of Dr. Straker, on field service at Peshawur.

MILITARY APPOINTMENTS.—22nd Foot.—Assist.-Surg. Andrew Leith Adams, M.D., from the 64th Foot, to be Assist.-Surg., vice M'Grath, deceased.—56th Foot: Staff-Surg. of the 2nd class, Luke Barren, M.D., to be Surg., vice Cowper, who resigns.—64th Foot: Assist.-Surg. Edward John Kennedy, M.D., from the Staff, to be Assist.-Surg., vice Adams, appointed to the 22nd Foot.—3rd West India Regiment.—Acting Assist.-Surg. Robert Thomas Dealiens to be Assist. Surg., vice Sanders, appointed to the Staff.—Hospital Staff.—Staff Assist.-Surg. Charles Bush Hearn to be Staff Surg. of the 2nd class, vice Barren, appointed to the 56th Foot. Assist.-Surg. Henry Shearly Sanders, from the 3rd West India Regiment, to be Assist.-Surg. to the Forces, vice Hearn, promoted. Acting Assist.-Surg. Edward Touch, M.D., to be Assist.-Surg. to the Forces, vice Kennedy, appointed to the 64th Foot.

OBITUARY.—On the 16th inst., in the 87th year of his age, Robert Batty, M.D., of Fairlight Lodge, near Hastings.—Henry Mathias, assistant-surgeon on board the Enterprize. Died from consumption, preceded by hæmoptysis, during the late expedition in search of Sir John Franklin.—On the 16th inst., at Chester, Thomas Bagnall, M.D., aged 65.—On the 19th instant, Dr. Allen, of the Royal Navy. This unfortunate gentleman committed suicide by throwing himself under a railway engine at the South-Western Railway. He had recently returned from Scotland to take charge of a convict-ship, which, however, he had declined doing, in consequence of ill-health.—Aged 46, Mr. Thomas Pitcairn, surgeon, Bedford-street, Toxteth-park, Liverpool. On Monday week, aged 80, Cabel Crowther, Esq., M.D., of Wakefield.

KING'S COLLEGE HOSPITAL.—In the Report of this Hospital, at the meeting, on Friday last, it was stated, that three-fourths of the proceeds of a sermon delivered at Lincoln's-inn Chapel, on the day of Thanksgiving, were about to be applied towards liquidating the expenses of receiving and treating cases of cholera and diarrhœa, during the prevalence of the epidemic. It appeared, that 1339 patients had been treated, of whom upwards of 400 had applied during the night, causing an addition both of medical officers and nurses to be required for the service of the Institution. A fifth donation of 100l. from Mr. E. M. Chandler was also announced, as well as other sums from other charitable individuals.

UNIVERSITY COLLEGE.—Dr. Garrod has been appointed to the Professorship of Materia Medica and Therapeutics at University College, vacant by the death of Dr. A. T. Thomson.

BENEVOLENT DONATIONS.—Mrs. Curtis, of Walsall, has presented the sum of 200l. to each of the following Charities:—The Walsall Lying-in Charity, the South Staffordshire Hospital, the Stafford Infirmary, the Stafford Lunatic Asylum, the Birmingham General Hospital, Queen's Hospital, Birmingham, Asylum for the Deaf and Dumb at Birmingham, Asylum for the Blind at Birmingham, and the Birmingham Eye Infirmary.

IRISH APOTHECARIES COMPANY.—The Governor and Court of the Irish Apothecaries' Hall, with the view to improve the knowledge of their candidates in pharmaceutic and pathological analysis, propose a prize of five guineas to students during their apprenticeship, which the Governor and Court will award to the most expert and successful competitor in the analysis of the subject selected for the year. The subject to be competed for in the year 1850 is the metallic preparations of the Dublin Pharmacopœia, (forthcoming edition,) and in connexion with these, the various mineral poisons, their classification, the symptoms produced by them, the appearances on dissection, the mode of detecting their presence in simple or mixed substances, solid or fluid, in the contents of the stomach or bowels, or in the tissues of the body, and their chemical antidotes. The examination will take place at the Apothecaries' Hall, upon the first Monday and Tuesday in May, and candidates for the prize are required to send their names to the Secretary of the Court a clear month before the day of examination.

THE CHELTENHAM BOARD OF GUARDIANS. This Board, already somewhat notorious for its attempted tyranny in the case of a late Medical Officer, (Mr. J. Hyett,) is still pursuing the same policy, in a still more obnoxious and less justifiable spirit. Ever on the alert to honour their Medical Officers, they have now come to the following resolution:—"That this Board is of opinion, that the system of medical relief at present in operation, is susceptible of considerable amendment; and this Board resolves, on account of circumstances recently brought to its notice, that, at the general election, in March next, no gentleman holding any hospital appointment shall be eligible as a Union Medical Officer.' This "new move" is directed against W. P. Brookes, M.D., who has, for many years, been an Officer of the Union, without the shadow of a complaint, and who has also, for a number of years, held an honorary hospital appointment with equal credit. Surely legislation ought to interfere, and protect Medical men from this petty tyran

THE ST. PANCRAS MEDICAL OFFICERS.—Two of the medical officers of the parish of St. Pancras have been severely censured by order of the vestry on charges of neglect. The first of these, Mr. Home Popham, who had officiated previously in charge of the cholera cases at Tooting, was charged with having neglected the case of an infant, said to have had cholera at the time; but the evidence that was brought forwards, clearly proved that Mr. Popham had nothing to do with the matter, the application for medicine having been made to his assistant, who refused to supply it, unless it were paid for. The child, when brought to Mr. Popham's house, was asleep; and the only complaint of illness made by its mother, was, that it had vomited twice. On the charge, although the act of neglect was committed by the assistant, who was dismissed by Mr. Popham for so doing, the latter was severely censured, and ran great risk of losing his appointment, several members of the vestry being very urgent for his dismissal. The reason for this harsh sentence was, that a master is answerable for the conduct of his servant—a regulation certainly according to law; but, in this case, as certainly not according to justice.

TESTIMONIAL TO MR. E. T. ALLEN, OF YORK.—The working-classes of York, residing in the "Three Water Lanes," have, much to their honour, presented Mr. E. T. Allen, surgeon, with a silver snuff-box, for his indefatigable Professional services during the period of cholera sickness in these localities.

TO CORRESPONDENTS.

"Mr. Couch, of Penzance," writes us:—"I observe, in Professor Owen's Lecture, reported in your last Number, that the metamorphoses of the crustaceans is ably and concisely discussed. In the first section of the first column, p. 373, your reporter says, 'It is certain, that the mouth of the young crawfish is not at any period accompanied by a marked change in the form of the body, or in the function and structure of the locomotive members," &c. This crustacean, in short, undergoes no sudden metamorphosis. If, by the common crawfish, is meant *Palinurus vulgaris*, as I suppose it is, the remark is, I think, a mistake. That species undergoes precisely similar changes to the lobster, &c., *vulgaris*. Its eyes are sessile, legs natatory, &c. My figures indicate it,—my notes describe it so. If, however, the remark is accurately reported from the Professor's Lectures,—lectures of which it is impossible to speak too highly,—I will re-investigate the subject immediately I can again get them in spawn."

[In reply to our esteemed Correspondent, we beg to state that the term "crawfish" was used by Professor Owen in the sense in which it is commonly understood by English Naturalists, as applying to the *Astacus fluviatilis*,—the small fresh-water species described by Rathke, not to the rock-lobster (*Palinurus*.) In the *Penny Cyclopædia*, e. g., the reader is referred, under the head "Crawfish," to "Astacus," and in the latter article, p. 514, vol. ii., he will find, "The crawfish, *Astacus fluviatilis*, is to be found in the fresh waters of Europe," &c.]

"A Constant Reader" writes from Litchfield, as follows:—"I was bound to two surgeons (partners) in February, 184'; they are both of them dead, the last died about a week ago; and I wish to know, firstly, whether, after going through the requisite hospital practice, &c., I could pass at the Apothecaries' Hall without further apprenticeship; secondly, whether the wife of the last surviving partner has any legal right to withhold my indenture; and, thirdly, the amount, agreed to be paid as premium being £150, and but £110 having been paid, whether she can claim the remainder."

[In reply to the first query of our Correspondent, we think he had better apply to the Clerk of the Apothecaries' Society. It is probable that, if he can get a certificate from a surgeon of having pursued his medical studies for five years, the Society would, under the circumstances, grant him an examination. 2. The rule is, that the executors may make over the pupil to another medical man by an arrangement between the parties concerned. 3. We do not think the widow would, even if she could, claim the balance due.]

"Mr. B. C. Browne, of Tamworth," writes as follows:—"I shall feel obliged if you or some of your correspondents will kindly inform me whether it is possible for copper to be gradually taken into the system through the medium of the food, from that food being occasionally cooked with water that possesses sufficient copper to turn rice that is boiled in it green, as I have had five children in one family ill with a sub-acute species of peritonitis; three of them are dead, the remaining two in a state of great danger."

[The introduction into the body of copper, in the way indicated by our Correspondent, is quite possible, and we do not think it unlikely that the symptoms to which he alludes have arisen from its use. Analyses of the blood, the substance of the liver, or of the coats of the stomach, would be advisable in the cases that have proved fatal; and an examination also of the food should be made.]

"Mr. King's" communication "On the use of Hydrochloric Acid in Cholera," will receive our early attention.

"Dr. Henry Thompson's (of Tyrone)" interesting case of "Popliteal Aneurism cured by Compression," we trust our space will permit us next week to publish.

"Dr. Downing's" pamphlet on "Tic Doloureux" has been received, and will be reviewed as soon as possible.

"Mr. Cooper, of the Medical Staff, Fort Pitt," must accept the same answer that we have given to many other respected Correspondents. The completion of Mr. Wardropp's work on the Heart does not depend upon us further than it will certainly be brought to a conclusion in the present volume. Mr. Wardropp is furnished with a certain number of copies for publication; but we are not aware at what price the author intends to issue them.

"O. Z."—The matter has been placed in the hands of a gentleman who may be relied upon, and who will communicate privately with O. Z.

Our friend in Oxford street, who inquires "the number of dispensaries where advice is given to the poor gratuitously," must pardon us that we do not obtain the information he requires. We have not time to do so; and, if we had, we do not know how to set about it.

"Sarsus."—We are unwilling to publish anonymous "Cases." In the present instance especially, we see no reason why the author's name should be suppressed.

"Mr. Robert Annan, of Kinross," will kindly accept the crowded state of our columns as our apology for delaying the insertion of his interesting "Example of Sympathy of Parts."

"Dr. William Hale, of Exeter," writes as follows:—"I beg to correct an error which has crept into 'the Notice to Correspondents,' in the 'Medical Times' of the 17th inst. It is there stated, that 'Dr. C. W. Bell, of Manchester, lately read before the Devon and Exeter Pathological Society an excellent paper on the present epidemic.' Dr. Bell's valuable time is too much occupied to enable him to visit Devonshire for the purpose of reading papers before the Pathological Society of Exeter. 'The Paper' is a letter addressed to me by Dr. Bell, which was, with the highly talented author's permission, read before the Society in question by the Secretary, Dr. Massy, who had requested me to allow him to do so."

Dr. Ure's" communication on the "Kenilworth Sewers and the Pimlico Tragedy," reached us too late for insertion.

Dr. Davies's" letter on "Cox, Davies, and Silk, *versus* the Midland Railway Company," shall appear next week.

Dr. Fleming's" obliging letter has been received.

ORIGINAL LECTURES.

INTRODUCTORY LECTURE

DELIVERED ON THE 21ST OF NOVEMBER, ON OPENING THE CLASS OF

THERAPEUTICS AND MATERIA MEDICA,

IN QUEEN'S COLLEGE, CORK.

By Professor FLEMING.

In commencing a course of lectures on Therapeutics and Materia Medica, it is essential that I place clearly before you the important ends contemplated in this department of medical instruction, and also, that I endeavour to imbue your minds with the true spirit in which this science should be studied. This is the more necessary, as in some Medical Schools the great objects of this course of lectures are altogether misunderstood, and hence the course of Materia Medica is not usually held by students in that estimation to which, as I will easily convince you, its real importance entitles it. Therapeutics is that branch of medicine which has for its object the treatment of diseases. In the early medicine was defined to be the art of healing, and, at this epoch, therapeutics was evidently the only object of medicine; but as knowledge increased, and observation became more accurate, it was found to be easier and more advantageous to prevent diseases than to cure them when developed. Thus medicine acquired a new science, called hygiene or prophylaxis, the object of which is, by maintaining health, to prevent the accession of disease. These two great ends of therapeutics and hygiene. viz., the cure of disease and the preservation of health, are accomplished by the employment of certain means or remedies, the consideration of which constitutes materia medica, the name by which this course is usually designated. It is, however, very far from my purpose to limit your attention to the mere description of drugs; on the contrary, that will be made quite secondary to what is of more value to you, therapeutics, which treats both generally and specially of the action of remedies on the body in a state of health, and their applications in the cure of disease.

In its most extended signification Materia Medica embraces all remedial agents of whatever kind, and thus includes mental remedies, diet, exercise, many surgical operations, and lastly, pharmacological agents or medicines properly so called. It is, however, more usually employed to designate that department only which relates to the consideration of medicines, in which sense it is synonymous with pharmacology.

You see thus that the limits of our subject are to some extent arbitrary, and, in fact, they are determined by conventional arrangements with the teachers of other departments of medical instruction, some subjects which might properly enough be discussed here, being omitted, as we know that they form part of other courses of lectures in your curriculum. * * * * *

I propose to myself, in conducting this course of lectures, to keep always distinctly in view what I believe to be its proper object, viz., the making you acquainted with the remedies of disease, their most effective form; and the most successful mode of applying them. With this principle to guide me, I shall have no difficulty in apportioning to each of the numerous subjects pressed on our notice, the amount of attention which it demands at our hands, and which will depend entirely on its subserviency in promoting the great end in view. We will enter very fully into the physiological action of medicines, on the knowledge of their effects on the healthy body, as we know that this knowledge is an indispensable guide to the administration of remedies in disease. Here I must take it for granted that you already possess an acquaintance with physics, chemistry, anatomy, and physiology. We shall avail ourselves of the sciences of botany, zoology, mineralogy, and chemistry for the description, preparation, and identification of the several articles that have obtained a place in the Materia Medica, studying the necessary parts of these sciences, not for their own sake, but for the purpose of applying the means of treatment during the actual presence of disease with greater certainty. You see thus, that for the succesful study of Materia Medica, much previous instruction, and more especially a thorough knowledge of all the elementary medical sciences is imperatively demanded. It is on this account that attendance on this class is fixed for the third year of your curriculum, and in adopting this arrangement, the authorities of the Queen's Colleges have wisely deviated from the ordinary course of study in force in England, where attendance on this class is required in the first or second year.

The closest relation exists between Therapeutics and every other branch of medical study. Our science forms, so to speak, the focus to which the light of all the others, is made to converge, the more effectively to accomplish the great aim of all your studies—the relief of human suffering.

It is in accordance with this view that Dr. Fleming proposes to adopt a physiological arrangement of the articles of Materia Medica—that is—an arrangement founded on their known effects on the living body; for it being allowed that the ultimate object of all our inquiries into the Materia Medica, is an attainment of the knowledge of the therapeutical uses of medicines, it appears to him that an arrangement, founded on the botanical, chemical, or other characters of drugs is, in relation to that important end, scarcely deserving of the name of a classification, and however imperfect our physiological arrangement must necessarily be in the present state of our knowledge, it is yet a step in the right direction, and, which, though involving errors, will, itself, render important aid in correcting them. The prevalence of a natural-historical classification, in our best works on Materia Medica, originates in a misapprehension of the proper character of this subject; but on this point, he said he would revert to fully in his next lecture, when he would exhibit the arrangement of the course.

In the meantime, this seems a fitting occasion for a few remarks on the present state of our science, and for pointing out to you the best method of securing its future progress. The Professor then entered into a philosophical comparison of the empirical and rational methods of advancing medicine. His observations gave evidence of the careful manner in which he has studied the fundamental principles of his favourite science. In the course of his remarks he alluded to homœopathy, as an illustration of a false rationalism, analogous to the so-called rational systems of Paracelcus, Van Helmont, Brown, and Broussais.

Even our own time, continued the Professor, has seen in homœopathy the birth, and I grieve to say the extensive diffusion of such a system. Seizing a fundamental truth in therapeutics, which I shall explain fully to you in my lectures under the name of substitutive medicine, the talents of Hahnemann raised upon it with much ingenuity a superstructure of considerable beauty, and which has captivated many weak minds. But it is not true, and a system which, a century ago, would probably have formed an epoch in the history of legitimate medicine, is now, from the improved knowledg of medical men, repudiated as a mixture of truth, fiction, and quackery. * * * * *

At the present day, the practical turn of mind characteristic of medical men in this country has led to the disappearance from their medical literature of nearly all trace of the wordy dissensions between rationalists and empiricists.—These two sects have met ostensibly on common ground. Not so on the Continent, where the old feud, but in a very modified form, is waged as warmly as in the days of Celsus. This is most obvious in Germany, where controversies in all departments of science are cherished with passionate fondness. This country is peculiar in possessing numerous highly distinguished men who have made physiology and pathology their exclusive pursuit—practical medicine being left to another and distinct class of men. The professors of physiology and pathology, affecting to despise the unscientific practice of their more humble brethren, have, with Müller at their head, united themselves into what is termed the Physiological School of Medicine. It includes many distinguished names—as Henlé, Wunderlich, Skoda, and Rokitanski, and from its ranks have emanated some of the most important contributions to our science of modern times. Avoiding hypotheses and vain speculations, this school has devoted itself to rigorous observation. It has laboured with the microscope to unveil the mysteries of histology, with analytical chemistry to determine the changes induced by disease in our tissues and fluids, with experimental physiology to ascertain the action of drugs, and in all these channels of inquiry has earned for itself the warmest thanks of the Profession. But it has committed one grand error, it has under-estimated the importance of simple clinical observation, it has too contemptuously discarded the results obtained by the busy practitioner—it has become too exclusively rational, and some of its members have erred grievously in repudiating all therapeutic means not based on the doctrines of physiology and pathology. Nay, some of them some of them have gone so far as to deny altogether the utility of drugs as at present administered. So openly avowed is this doctrine, that in the wards of Scoda, Professor of Clinical Medicine in Vienna, I have seen patients affected with the most severe diseases as pneumonia, pleurisy, and fever, left entirely to nature, and, with the exception of some slight regulation of diet, not an effort made to avert the tendency to death should that event be impending. To express belief in the value of medicine in this capital is to expose oneself to ridicule. Although in Berlin, and some other German schools, medicine is practised as much in this country, still this utter scepticism of the value of drugs has made rapid progress throughout Germany. Homœopathy, Hydropathy, Mesmerism, and other quackeries have flourished in a corresponding degree. The busy practitioner, dependent for his livelihood on the pursuit of his Profession, has become alarmed—not having the leisure to study profoundly the sciences of physiology and pathology, and place himself on a par, in this respect, with the Professors in the Universities, yet honestly convinced of the real value of the treatment he is daily adopting—erroneously believing that the scepticism of the Professors is due in some way to their physiological and pathological studies, he has fled in desperation to the opposite extreme—has denied the possibility of founding practical medicine on a physiological basis, and has, within the last few years, unfurled anew the banner of empirical medicine.

At the head of this school, Rademacher stands prominently forward. His work, entitled "The Cultivation of Therapeutics on a Purely Empirical Foundation," and written to counteract the spreading scepticism of the rational school, has enjoyed a most extensive circulation, and has obtained for him many followers, who, though less known to fame than their opponents, are diligently occupied in collecting observations made at the patient's bedside.

A periodical entitled the *Journal of Medical Experience* has recently been founded to serve as the organ of this school.

Happily, a large section of the profession has avoided the extreme views of either the physiological or the empirical schools, and, judiciously blending science with clinical experience, is actively exerting itself to improve the difficult art of practical medicine.

In France the physiological school has reared its lofty head under Andral, Cruvelheir, and Bouillaud, with such power as to have thrown the therapeutist into the back ground. While the sciences of physiology and pathology, and the art of diagnosis, have made great progress in France, that of the uses of medicines has been completely overlooked. Disbelief in the value of ordinary treatment is very general, yet the extreme opinions of Germany find few disciples among the French. Under Chomel, Trousseau, Rostan, the French student has yet excellent opportunities of acquiring a knowledge of

practical therapeutics. The long and irregula neglect of this department of medicine in th country has at length forced itself on the attentio of the profession, and we can see indications of new and better state of things.

In relation to treatment, medical men in Great Britain and Ireland may be divided into two classes including respectively the scientific practitioner an the practical man. The first and smaller class is I am glad to say, rapidly increasing its numbers It includes all those who practise what we hav described, the true rational therapeutics, sometime designated as rationo-empirical medicine. The believe that physiology should form the basis o practical medicine, but at the same time they d not hesitate to receive curative indications from th bare facts of clinical experience.

The majority of medical men in this country contrast unfavourably with the class now described I refer to the routine practitioners, or, as they have been pleased to designate themselves, the *practical* men—who, from a want of study, of intelligence, or of time, affect a supreme disdain f everything that concerns doctrine or generalization. They pride themselves on their experience and speak ironically of the scientific practitioner, calling him a theorist or a book physician—but whose knowledge, they feel, crushes and confound them. "The so-called practical men," says Professor Craveilheirs, "are those who have no doctrine and no general principles, who gather t gether ready made formulas and isolated cases, without any kind of scientific discernment. Tl only medicine they study is that contained in small books of prescriptions, which they carry in their pockets, and know by heart. We have frequently had occasion to remark," he says, "that a practical man, that is, a man who boasts of knowing nothing of scientific medicine, is a medical machine, inferior, intellectually, to a master mason, a locksmith, or a cabinetmaker, for these have principles, and a sort of doctrine, which they apply in their business."

* * * * * *

The difficulties which surround our science are discouraging, and the picture of its past history is, I confess, gloomy. Now, however, it is evident that a new era in the history of medicine is gradually opening upon us, that in fact Therapeutics is beginning to attract that attention it so eminently merits, and we are justified in hoping that the next fifteen or twenty years will achieve for our science a rapidity of advancement to which it has hitherto been a stranger. It is to the rising generation of scientific practitioners that we must chiefly look for this onward progress, and let me hope that some of you are endowed with that activity and enthusiasm with which so much may be done for science, and of which it stands so much in need.

And now, gentlemen, allow me to say a few words on your responsible position as students here. It may be said emphatically, that everything in medicine relates or ought to relate to Therapeutics, or to express it otherwise, that all your studies are important only in so far as they improve your power of mitigating suffering, repairing injury, and averting death. Much of the information to be communicated here is of that kind which is immediately applicable at the bedside of your patients. You must, therefore, employ your talents to the utmost to make the best use of the present opportunity for improvement, or how can you afterwards enter honestly upon the practice of your Profession? You must labour hard now, if you desire, in the future, to enjoy the blessings of peace of mind and an approving conscience. * * The Professor here appealed to the student on behalf of the P fession he was about to join, and on behalf of the young College he had just entered. He concluded his truly excellent lecture in the following words: I trust that each one of you, when the time comes for you to go forth into the world and leave the place of your education, will be prepared to secure respect and success for himself, to maintain and elevate the character of his Profession, and to reflect honour on his alma mater.

ORIGINAL CONTRIBUTIONS.

RETROVERSION OF THE UTERUS AS A CAUSE OF STERILITY.

By EDWARD RIGBY, M.D., &c.; Senior Physician to the General Lying in Hospital; Examiner in Midwifery in the University of London.

In order still further to illustrate the subject of retroversion, as one of the many causes of sterility, to point out some of the more important effects which this displacement produces, and also to show the great value of the prone posture for maintaining the uterus in its natural position, I must be permitted to quote a case or two where it has occurred in unmarried females.

Through the kindness of my friend, Mr. Frederick Elkington, of Birmingham, I have been furnished with the notes of an interesting case which I attended with him two years ago at that place, and which I have had the opportunity of seeing occasionally since in London. His report is as follows:—

Miss ——, aged 36, a delicate lady, of nervosanguineous temperament, came under my care in August 1847. She had been suffering some months from hæmorrhagia, was very thin, much reduced, and in a very weak state, suffering from frequent alpitations of the heart, and a high degree of nervous excitement. I was informed that she had been subject, more or less for several years, to frequent ttacks of flooding, commencing at the menstrual eriod, and at times continuing for several weeks ogether. Sometimes the discharge would continue or three or four months with little or no intermision. She had pain in the sacrum and left iliac egion, sometimes in the right, a sensation of weight n the pelvis, constipation, and a feeling of pressure gainst the rectum. She dates the origin of her lness to long continued watching of and nursing a ear relation, supporting her and bending over her hours at a time. Whilst thus occupied, and luring one of her pe she first felt the above mptoms. On making an examination per vagi- I found the os uteri open, the lips swollen, the terus retroflexed, the fundus resting nearly upon he perinæum. On passing the sound, and raising he fundus, the uterus was restored to its normal sition, and tl appearance of a tumour removed. On withdrawing the sound the fundus again fell kwards, the uterus doubling upon itself. There pain and tenderness of the left ovary, (pressure ver it causing acute pain,) frequent hæmorrhage, metimes considerable, so much so, that on one casion I thought it necessary to plug the vagina. he was visited by Dr. Rigby, August 31, 1847, ho found her with constant discharge, frequently assing small coagula, but not to the extent she ad previously done; pain in the left inguinal region, hip, and sacrum, sometimes extending down the thigh; pulse quick, skin dry. On examination per vaginam, the uterus was found retroflexed; per rectum, the left ovary was felt enlarged, and painful on pressure. He advised the application of leeches to the ovary by means of the rectum tube, and repeated every third or fourth day, till the pain and tenderness were removed; afterwards to Professor Simpson's uterine supporter, to take an alterative pill at night, and a mixture with liquor taraxaci, &c. in the day.

She was much relieved by the application of leeches, and, after the third leeching, the pain and tenderness were entirely removed. The discharge, although not entirely checked, was considerably diminished.

The uterine supporter was first used September 12, and worn only a few hours. It was introduced he following day, and for several successive days, early in the morning, and removed in the evening. The first two or three days she could only wear it a few hours at a time, as it caused so much pain. She then wore it a few days without having it removed, but, having an attack of pain in the left ovary, from a return of inflammation, the supporter was withdrawn, the ovary leeched, &c. The pain being relieved, and the uterus continuing retroflexed, it was again introduced the first week in October. She then wore it eight weeks, during which time she was able to walk out a little, and to ride out most days. She suffered but little pain and inconvenience from it. At times there was a copious mucous discharge, and she lost a good deal at the two menstrual periods while she wore it. The periods were also prolonged, lasting 10 or 14 days. Every now and then, she had pain from the disc of the instrument getting into the os, which completely embraced it; but by pressing the os uteri upwards, and slightly drawing down the instrument, she was immediately relieved. Eventually this accident was prevented by the use of an astringent injection. She wore the instrument two months, but could not be prevailed on to wear it longer. She was without it six weeks. For two or three days after it had been removed, the uterus maintained its normal position; it then fell back again. At first it was not so completely retroflexed as before, but gradually became so. During the month of December, she improved in health, and regained strength; indeed she had done so whilst wearing the supporter, but complained of pain or aching in the sacrum, and a dragging in the groin, more particularly in the left; pressure against the rectum, with occasional discharge.

January 18, 1848.—She is better in health, but the uterus is still retroflexed. The menstrual period has just ceased, and she was anxious again to try the supporter. It was introduced, and she wore it without pain or difficulty; but there was a return of the coloured discharge, which continued more or less each day, at times accompanied by the discharge of small coagula, till the 27th. She then became so excessively anxious about the discharge, that I thought it better to remove the instrument, and the discharge gradually ceased.

February 2.—She is entirely free from discharge.

11th.—Has continued without discharge since last report; is improved in health; uterus still retroflexed. The vagina in a more healthy condition ever since I attended her; much less relaxed; the os uteri more closed. From the improved tone of the part, I thought there was a greater probability of the uterus being permanently restored to its normal position than there had been before, and a better prospect of the supporter being successful. I was anxious, therefore, to give it another trial. It was introduced without difficulty or pain, the os uteri closely embracing the peg. Soon after the instrument was passed, there was a slight return of discharge, which continued in some degree till March 1. It then ceased altogether, and she remained free until the 10th, this being her "poorly" time. When it was over, as she thought, two or three days, it again returned slightly for a few days. About the 7th, (viz., the 17th,) it increased considerably, accompanied with clots. She now became alarmed, and wished to have it removed, but was prevailed on to try it a little longer, in the hope that this discharge would subside. She has worn the instrument this time six weeks. I intended she should wear it, if possible, for four months, so as entirely to overcome the disposition or habit of the uterus to fall back again.

March 20.—The last two days she has had much less discharge; it generally gets worse in the evening and continues during the night; in the morning, when the bowels are moved, she frequently passes a small coagulum. She does not appear to have lost so much lately as to hurt her,—indeed, not more than many females do at each period; she complains of pain in the left groin, and a dragging sensation; bowels confined; they have not been moved so freely as usual for three or four days.

Examination per Vaginam.—The instrument has kept its place very well, it has not once been wrong this time. She was ordered to have an enema, and to have it repeated every day, if necessary; to use an alum injection per vaginam once or twice a day; to keep perfectly quiet for a few days, and to take Tinct. ferri sesquichloridi guttæ x. bis die ex aqua.

23rd.—Has rather less discharge the last two days, but some increase each night; complains of palpitations; pulse, 110. Tongue clean, but rough; pain in the left hip and groin, and also in the uterus; is hysterical, and has passed a good quantity of limpid urine; the bowels have been moved by the enema; she says that the discharge has been, at

times, offensive, and there has been a discharge of wind from the uterus.

Examination externally.—There is no enlargement to be detected in the situation of either ovary, nor of the uterus; nor is there any tenderness on pressure.

Examination per Vaginam.—The disc of the instrument is not close up to the os uteri; no tenderness on pressure of any part of the uterus or cervix.

Examination per Rectum.—No enlargement or tenderness to be detected of either ovary.

Let her have a warm hip bath at night, when in pain. Rep. tinct. ferri sesquichl. ℞ Extr. hyosc. extr. rhei, aa. gr. v. om. nocte.

25th.—Better; the pain was relieved by the bath.

28th.—Better; no pain on sitting up; less discharge.

April 15.—Is much better; has had no discharge since the 5th, yesterday. She took a long ride; it is now about the time of a menstrual period, and a slight show has appeared to-day.

April 24.—She reports that, since my last visit, she has had some discharge daily; but on the 21st, 22nd, and 23rd it increased: to-day she has had a copious flow, one or two gushes, and some clots; pain in the side, bowels disordered, being relaxed two or three times a day. I removed the supporter, which she has worn this time ten weeks and three days. The uterus is in its normal position, the os open and relaxed. She is to use the prone couch.

May 31.—I received a note from her this morning, stating that she had not been so well, and had had much pain and discharge. I found that she had been taking more exercise than usual, and that the bowels were constipated. Let her have an enema occasionally, and to keep quiet for a few days.

June 7.—The discharge ceased on the 5th; she has been entirely free since, and feels better than she has done for two years. I find that the position of the uterus varies considerably; sometimes it is normal, frequently partially retroflexed, particularly after taking exercise, *and then the discharge is more copious*; at other times, more especially after keeping the prone position for some time, it is antiflexed. She perseveres in the use of the prone couch several hours a day. Early in July she went to Ramsgate.

July 21.—She writes that she bore the journey well, and felt better; but the bowels had been much relaxed since her arrival there.

31.—She writes, "You will be glad to hear that I feel much better, and have got over my period very well."

August 25.—Writes, "I have got over my last period very well, and am certainly stronger. I hope the prone position may be as beneficial as it is expected. I give it a fair trial."

February 6, 1849.—Writes, "I am sure you will be glad to hear that I am now very well, and am getting quite strong. I still continue the prone couch, making it my habitual position, and always have recourse to it after taking exercise. I can walk two or three miles very well. It is no small comfort, I assure you, to have regained the use of my legs. I think, from my own experience, I may strongly recommend the prone couch to all similarly affected as I have been."

March 27.—Writes, "I am so well now that I hope I shall soon have no further use for the couch. I certainly think I have derived great benefit from the prone position."

After this last report, by Mr. Elkington, I saw her on two occasions, and made the following memoranda:—

April 14.—She has now used the prone couch for a year with striking improvement both in health and strength. I advise her to feel her way carefully in moving about; to use the prone position at least once a day, and always at night.

August 29.—Is well and active, but requires care to keep the uterus in its right position, especially just before the period; the menstruation is now quite healthy.

When I saw this patient for the first time she was in a state of great exhaustion, and considerable danger, having been literally drained of blood by previous and still recurring gushes of severe menorrhagia; every movement was followed by a fresh discharge. The loss had been so severe on one occasion, before I saw her, that Mr. Elkington had very properly plugged the vagina for a while; and when it was decided that I should be sent for the danger was so urgent as to admit of no delay. The two points which struck me, on investigating the case, as being essentially connected with the menorrhagia, were the retroverted condition of the uterus, and the inflamed and swollen state of the left ovary; both of them, separately or conjointly, were capable of causing menorrhagia, more especially the latter, as I have already shown in a striking case of this affection. (*Medical Times*, Feb. 15, 1849.) The retroversion was evidently the earlier affection; the characteristic pain at the sacrum and left side of pelvis were pointed out by Mr. Elkington in his very first report. They were attended with a sensation of weight in the pelvis, constipation, and a feeling of pressure against the rectum; symptoms arising from mere mechanical pressure of the fundus uteri against the posterior wall of the pelvis. The displacement had, doubtless, been produced by over exertion and long standing during a catamenial period, when the uterus, heavier and more bulky than usual, was more readily affected by efforts of the abdominal muscle, as in lifting, &c. It was after one of these occasions that she first perceived the pains connected with retroversion. We may presume that the inflamed and swollen state of the ovary was a consequence of the retroversion. I have repeatedly alluded to this fact; and here also it was the left ovary, as is observed in so large a majority of cases.

I found her in a state of serious exhaustion; considerable discharges of fluid and clotted blood were still recurring from time to time. She was not in a condition to bear the uterine supporter, and still less to bear the application of leeches for the present. I therefore directed a sort of prone couch to be made in her bed by pillows, &c., laid upon a box of the proper size; by this means I hoped to bring the fundus of the retroverted uterus forwards, (as the soft parts were thoroughly relaxed by the effects of the discharge,) and thus, in some measure, relieve the engorged ovary from the obstructed state of its returning circulation. I recommended Mr. Elkington to leech the ovary (per rectum) as soon and as frequently as he could, and, when the state of the patient permitted it, to apply Dr. Simpson's uterine supporter. The third application of the leeches completely relieved the inflamed condition of the ovary, and in not quite two weeks from the time when I saw her she was enabled to make a cautious trial of the supporter. At first she could only bear it for a few hours at a time, but soon increased the period to several days; a return of the oophoritis necessitated its removal, and another application of leeches. After this she was enabled to wear it eight weeks, with great improvement to her health and strength. She passed two catamenial periods while wearing the instrument; they were very profuse, and there was a considerable mucous discharge between the periods, probably resulting from the relaxed atonic state in which the uterus and vagina still were, and also from the irritation produced by the supporter. She suffered also from an accident, which not unfrequently occurs, and produces considerable pain, viz.: the relaxed os gradually descends over the button or disc of the instrument, and then contracts beneath, drawing down the fundus tightly upon the peg, and producing much suffering. The injection of some astringent is, I believe, the best means for preventing it; and the form of the disc ought to be oval, with its long diameter corresponding with the transverse one of the pelvis. The benefit from the supporter was but temporary in this case, but, nevertheless, it was of much importance to her, for it relieved her of those painful symptoms which evidently depended on the retroverted state of the uterus, and enabled her to gain strength, and to go out into the open air, which she scarcely could have but for its assistance. In such a state of debility and want of tone, it could hardly be expected that the uterus would retain its natural position when the instrument was withdrawn. Accordingly, as soon as this was done, she began to complain "of pain or aching in the sacrum, and a dragging in the groin, more particularly in the left, pressure against the rectum, with occasionally some discharge." This defective support of the uterus is well seen in some cases of retroversion, where the patient has used the prone position; for, after a while, instead of the above-mentioned symptoms of retroversion, she has pain in the pubic region, and frequent desire to pass water,—the position of the os uteri backwards, and the fundus directed forwards, indicating a state of anteversion, the fundus falling forward or backward according to the position of the patient. The fact of her having brought on a return of her symptoms, by over exertion, after about a month's use of the prone couch, shows that, at any rate, she had sufficiently benefitted by it to be able to get out and move about; but she had also increased the liability to a return of it, by allowing the bowels to become constipated. After this little interruption, she began to improve steadily, "persevering in the use of the prone couch several hours each day," and in little more than a month had improved sufficiently to venture on a journey to Ramsgate. I saw her as she went through London, and was much pleased to see what a favourable change had taken place. Her occasional reports of herself to Mr. Elkington show that the catamenial periods were now becoming natural, and that her health and strength were rapidly improving. She could evidently command the position of the uterus by using the prone couch, and her resolute perseverance brought its just reward. I will now add some further reports of this interesting case down to the present time.

April 14, 1849.—She called upon me in London. She has now used the prone couch for a year, with great improvement of health and strength. I advise her to feel her way cautiously as to taking exercise, to use the prone position once a day, and always at night.

August 29.—Is well and active, but requires care in order to keep the uterus in its right position, especially just before a menstrual period. Catamenia quite natural.

Nov. 16.—By a letter just received by Mr. Elkington, she says:—"I think I am as strong and well as ever I was in my life."

In advising her to continue the prone position at night, I was merely advising her to keep up the use of a position for sleep, which habit soon renders the most comfortable that a patient, under these circumstances, can adopt. She generally finds that she learns to sleep upon her face much sooner than she expected, and derives an amount of comfort which she seeks in vain in any other position. I believe I have already stated, that the prone position, in cases of retroversion, is most effective just before a catamenial period, when the uterus is heavier than ordinary, and where it is, therefore, more completely under the influence of position.

AN ACCOUNT OF SEVERAL CASES OF BILIOUS CHOLERA

TREATED BY

HOT-WATER APPLICATIONS.

By F. A. BULLEY, Esq., F.R.C.S.,
Surgeon to the Royal Berkshire Hospital, Reading.

Case 1.—Miss G., a maiden lady, aged 72, was seized on Monday, Sept. 10, 1849, with all the ordinary symptoms of the epidemic cholera. About two o'clock on that day, having been in better health than usual on the day previous, she suddenly felt exceedingly faint, and began moaning, as if from excessive pain. Immediately afterwards she became very sick, straining violently, but bringing up only small quantities at a time of a dirty, white, sticky fluid. She continued in this state, until four o'clock in the afternoon, when a diarrhœa, from which she had been suffering in some degree all that day, became much more frequent and harassing, until she was at length unable to retain the evacuations, which were fluid and light coloured,

and ejected with considerable force from the intestines. She was much in this state when I was called to see her, about six o'clock in the evening, with the addition, that her limbs had become exceedingly cold, and covered with a damp perspiration; her face, also, was cold and deathlike, with a peculiar hollow appearance of the eyes; pulse not perceptible at the wrists, with a very feeble action of the heart; tongue slightly coated with a greenish fur, and she complained of a most intolerable sensation of burning or gnawing at the pit of the stomach.

Thinking that not a moment was to be lost in attempting to restore the fast failing circulation, I had her immediately packed up with hot water in the manner described for the treatment of scarlatina in the *Medical Times* of August 25, (a) and her body afterwards covered with a great number of blankets, and she took the following draught:—

℞ confect. aromat. ʒ ss.; olei caryophyll. ♏ iv.; spirit. armoraciæ. comp. ʒj.; aquæ menthæ virid. ℥i ss. ft. haust.; which was almost instantly rejected.

This being the case, the medicine was not repeated, but she took about ten drops of a solution of the liq. morphiæ muriat. in a wine glass full of cold water every half-hour, which manifestly relieved the sickness, but did not entirely remove it. About the middle of the night, while still covered with the blankets, she was observed to bring up a considerable quantity of a fluid like thin coffee-grounds, and afterwards a small quantity of bile appeared in the matter vomited, which continued until the sickness had entirely abated. Although she began to feel warm from the commencement of the packing, it was nearly 1 o'clock in the morning before the perspiration became general over her body; and about three o'clock, it quite ran down her face, as the nurse informed me. She was then carefully and gradually uncovered, when she was found to be uniformly warm over her body and limbs; the distressing sensations in the epigastrium were no longer felt, and the pulse had recovered its natural healthy beat at the wrists, whilst the sickness had in a great measure subsided. An immense quantity of thick, dirty, white fluid was found to have been discharged in the bed clothes when they were removed from her body; but after this she had no evacuation of any kind, until a day or two afterwards, through the employment of medicine.

Tuesday (next day) evening.—She has passed a tolerably comfortable day; she is rather thirsty, the thirst having been previously very great; her skin continues quite moist and warm all over. There is no appearance of any re-active fever. The urine which, although small in quantity, had not been entirely suppressed, now passes freely. She has a trifling feeling of sickness at intervals, but is in no pain; she suffers a good deal from flatulence. Her bowels have not been opened since yesterday, when the blankets were removed; she has felt as if she wanted to relieve them, but has been unable to do so.

Wednesday evening.—Has passed a very comfortable day, the sickness having entirely ceased; she is quite cheerful, and apparently in a fair way to convalescence.

Three days after this she had quite recovered from the attack, and had daily passed a healthy billious motion; but she continued very weak for some time afterwards.

Case 2.—On Thursday, Sept. 26, 1849, I was summoned early in the morning to visit Mr. John B., a miller's foreman, living about three miles from Reading, who, from the description given me by his wife, appeared to have been suffering from an attack of the epidemic cholera. He had been apparently in the best of health all the day before he was attacked, and up to half-past one in the morning, when he was suddenly, without any previous warning, seized with a most violent pinching pain in his bowels, which, at the moment, he attributed to wind in the abdomen, although he could not recollect having eaten anything which could by any possibility have produced it, nor was he generally subject to any flatulent distension of the bowels. With this there was an urgent desire to go to the water-closet, but he found that he passed but a trifling motion, not relaxed until two o'clock, when he got up, as usual, to attend to the business of the mill. He then found that the exertion of getting out of bed produced a violent and excessive action of the bowels, the first stool or two being of a natural healthy colour, but relaxed in consistence,—the others, which followed, eight or ten in number before I saw him, being composed of a thickish dirty white fluid, similar to gruel, or ground rice, steeped in water; he did not, however, feel any particular sensation of sickness. Following these symptoms there succeeded almost immediately a curious and almost indescribable feeling of faintness and languor, with a general failure of his muscular strength, so that when he attempted to walk about the room he felt as if he should sink into the earth, as he expressed himself. He now felt extremely trembling and cold, the skin, especially of the legs and arms, shortly assumed a pallid appearance becoming deadly cold to the touch, and his limbs were affected with painful and frequently-recurring spasms. His face looked wan and altered from its natural appearance. His wife had put his feet into hot water, which afforded him some, but only temporary, relief; she had also given him some warm brandy and water, which had had no better effect.

As another pressing engagement prevented my seeing him immediately, I directed his wife to use the hot water packing in the manner I have described, and to give him a portion of the following mixture every two hours:—℞. Confect. aromat. ʒss.; olei caryophyll., ♏xx.; sp. armoraciæ comp., ʒii.; aquæ menthæ virid., ℥vj.; M. ft. mist. cap. 4tem partem secundâ quaq. horâ.

At eleven o'clock, a.m., I visited him and found him still wrapped up in the blankets, and in a profuse perspiration over every part of his body. My directions had been fully carried out by his wife, who gave me the following account of his amendment:—Although so deadly cold just before the packing process was commenced, he began, in less than a quarter of an hour, to feel a gentle heat, which, commencing in the abdomen, gradually diffused itself over the extremities, and in less than half an hour his whole body had become bathed in perspiration; encouraging this, he had remained enveloped in the wrappings during the two hours previous to my seeing him, when I found him in the state I have described. What was most remarkable, the cramps, which had been very painful just before the application of the hot packing, ceased on the production of the sweat, and never afterwards returned, and it was observed that the relaxation of the bowels ceased shortly afterwards; the pain of the abdomen was almost gone, only a slight tenderness, on pressure, remaining.

At one o'clock, p.m., he had had but one motion, which he had passed under the bed-clothes, to avoid the exposure to cold; it was of a fæcal character, and had entirely lost the choleraic appearance of those passed in the early part of the morning.

Wednesday (next morning).—I understood from his wife, who thought it unnecessary for me to see the patient again, that he had passed a very comfortable night, having had one or two healthy bilious motions, the pain of the abdomen had ceased, the ordinary heat of the body had returned and remained, and he was thinking of getting up and walking in the garden; but he felt himself extremely weak, and, as he expressed himself, quite knocked down by the suddenness and severity of the attack. I should mention that there was some, but very little, diminution in the quantity of urine secreted during the attack. There was no re-active fever afterwards.

Case 3.—Mr. James D., a newspaper vendor at the Great Western Railway Station, at Reading, was seized, on Wednesday, Sept. 26, 1849, about seven o'clock in the evening, with a most violent and sudden pain in his abdomen and relaxation of the bowels, accompanied by constant sickness and vomiting of a dirty white fluid like gruel. He had been quite well during the day preceding the seizure. I afterwards ascertained that he had been eating a quantity of water-cress some little time before the occurrence of the attack, which had occasioned a sensation of great distension of the abdomen and twisting pains; for this he took some warm brandy and water, which, however, he immediately threw up. The symptoms not subsiding, but, on the contrary, manifestly increasing, I was called to visit him about two o'clock, a.m., on the Thursday morning, seven hours from the date of the attack, when I found his arms and legs drawn up in knots from the most painful spasm, the muscles of the abdomen being similarly affected; his feet and arms were extremely cold, and covered with a moist exudation, but there was a feeling of some degree of warmth over the surface of the abdomen; he had a peculiar sensation at the pit of the stomach, which he said was something like heartburn; but different to anything he had ever experienced before. The pulse was very feeble at the wrist; he complained of excessive thirst. I ordered him to take immediately a quarter of a grain of muriate of morphia in a pill, and to be carefully enveloped in the hot water packing, according to the method described in the account of the preceding cases; I also ordered him to take the mixture as directed in these cases.

In about half an hour his whole body and limbs had become bathed, at first, in a gentle, and afterwards in a profuse perspiration,—so much so, at last, that it ran down his face in streams. He was allowed to remain in this state until about four or five o'clock in the morning, at which time the spasms had entirely ceased, as well as the pain and sickness, which seemed also to have ceased on the occurrence of the perspiration. The blanket packing was then carefully removed.

Thursday (next morning).—Has had no relaxation of the bowels or sickness since the occurrence of the perspiration; there is a gentle warm moisture over his whole body; he feels very weak.

Friday.—Still feeling extremely weak; but his appetite has returned, and he has lost all his uneasy sensations.

Saturday.—He has so far recovered as to be able to resume his usual occupations on the platform of the railway, but is still weak, and looks as if he had been suffering from a long-standing debilitating disease, rather than from an illness which, in its most active state, had run over only a few hours.

I ought to mention, that, on the very day of his seizure, he had got into the occupation of a public-house near the railway, built in an arch over a stinking ditch, which had only a day or two before been cleaned out, much to the annoyance of the neighbouring inhabitants, and the patient himself

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(a) The following is the method which I adopted in this and the succeeding cases. The sheets and counterpane having been removed, two large and thick blankets were laid one over the other smoothly upon the bed. The patient was then laid upon these blankets, thus disposed, and a flannel pad made of four thicknesses of coarse house-flannel, such as is used in cleansing floors, (the pieces being sewn together round the edges, to prevent their coming apart,) was wrung out of hot water, as hot, indeed, as the patient could bear it, and rapidly laid over the pit of the stomach and upper part of the abdomen. This being done, the blanket nearest the body was carefully but quickly packed round him, one end being brought over his body, and tucked under on the opposite side; the other drawn over in an opposite direction, and likewise tucked under the body on the other side. The second or under blanket was then applied in the same manner, great care being taken so to bring them round the throat, as to confine the heat generated by the process without any unpleasant constriction; the same care was used to enclose the feet; over these a number of other blankets, sometimes as many as nine or ten, or even more, were laid, these being only lightly tucked round the patient. He was allowed to remain covered in this way, until the perspiration appeared upon the face, when the outer coverings were carefully removed. Sometimes it was necessary to apply more than one pad over the abdomen; and in one of the worst cases, where the coldness was excessive, it was necessary to place one on each thigh of the patient. When it ap- [illegible]

[illegible] sweat, a sma[illegible] and placed round the head, immediately relieved the feeling.

had been greatly affected by the stench. No re-active fever followed this attack. There had been some, but no particular diminution in the secretion of the urine, during the most severe period of the disease.

Case 4.—John T., a prisoner in the County Gaol at Reading, generally speaking, a healthy-looking man, was taken ill on Sunday morning, Oct. 14, 1849, with such violent and sudden crampy pains in his abdomen, that for a short time after the attack he was scarcely able to stand up-right. The pain was so agonising and intense, and such strange feelings came over him, that he fainted away, and remained unconscious of where he was for a considerable time afterwards. On his recovery from this state, he was seized with vomiting, and frequent and excessive purging, so that the dejections, which were thin and watery, ran away from him without his being able to restrain them. He had been perfectly well the day before the seizure, and had been at work at the pump, like the rest of the prisoners. Thinking that he was suffering from nothing more than an ordinary bilious attack, he did not apply for medical assistance until the evening, when I found him complaining of extreme cold, his legs and arms covered with a clammy perspiration, and feeling more like the limbs of a corpse than of a living being; he was almost pulseless at the wrists, speaking in a hoarse and almost inarticulate voice, and looked extremely wan and dejected. Having little doubt of the nature of the seisure, I directed the hot packing to be immediately applied, but, owing to some imperfection in the process, it did not entirely answer my expectations, only producing a warmth of the body, without perspiration; it, however, relieved the pain in the abdomen, and in some degree the vomiting, but the purging continued all the night. He had taken a quarter of a grain of muriate of morphia early in the evening, which had been repeated after two hours, and his spine had been rubbed with a strong liniment, containing liq. ammoniæ fort. and tinct. lyttæ., until the skin had become reddened by the friction. He also took a dose or two of astringent medicine during the evening.

Monday, next morning.—The vomiting and pain in the abdomen have ceased, but the diarrhœa, which has assumed a decidedly choleraic character, continues, but not so frequently or profusely as yesterday. He is warm, but not in the least perspiring. He suffers from excessive thirst. During yesterday and to-day he has passed very little water, which is voided only in drops, but the secretion is not entirely suppressed. As the packing had not completely answered its intended purpose, he was again packed up with the hot flannels, and covered with a large number of extra blankets; in about an hour and a half, or two hours, his body and limbs had become bathed in a profuse perspiration, in which he was allowed to remain for several hours. During the whole time, from the very commencement of the attack, there had been an entire suppression of the biliary secretion.

Tuesday.—The supernumerary blankets having been gradually and carefully removed, he has remained in a gentle perspiration ever since the packing; the vomiting has entirely ceased; the pulse, which was scarcely perceptible before, has risen to its natural standard; the secretion of urine has returned; and there is a fæcal appearance in the motions, although they are not so deeply tinged with bile as I could wish. In the latter part of the day he had a slight return of the coldness of the limbs, for which it was considered necessary again to apply the hot packing, which restored the circulation in about twenty minutes. Since that, he gradually improved, and, in the course of two or three days, I found him well enough to be discharged from the Infirmary, suffering only from extreme debility, which appears to be the usual consequence of the disease, when treated in the manner I have described.

Case 5.—I was called up between three and four o'clock on Sunday morning, Oct. 14, to visit Mr. G., storekeeper of the County prison, who was suffering from what appeared to be an attack of the prevailing epidemic. I found that he had been seized all at once about four o'clock on the previous afternoon with the most violent pains in the bowels, more particularly severe just at the pit of the stomach, which was immediately succeeded by cold chills, and a peculiar trembling sensation, such as he had never felt before, over his whole body.

The pain was so severe, that it seemed to occasion a cold sweat all over him; and, although the sweating was very profuse, he still felt remarkably chilly in himself, while it continued; and his skin, particularly that of the arms and legs, was almost icy cold to the touch. He complained of a very unpleasant and unusual sensations of languor, not like common faintness, but as if, as he expressed himself, he should sink down into the bed and die. He had not had any diarrhœa. The secretion of urine was diminished.

He was much in the state I have described when I first saw him; his pulse was feeble and irregular, and his tongue slightly furred: he had been previously fomented with hot flannels, in the ordinary manner of fomentation, but it had failed to afford the slightest relief to the pain.

Thinking he was in a state of partial or commencing collapse, I immediately had him packed up in the manner I have described, and covered with six or eight extra blankets, several of them being doubled, and a hot water bottle was applied to his feet; he had been sick only two or three times during the night before I saw him, what he brought up being of a dirty light colour, like thin arrow root; but he had constantly been tormented with nausea.

It was full four hours before he got into the usual perspiration; and as there was evidently an entire suppression of the biliary secretion, or a retention of it in the gall bladder, he was ordered to take two grains of calomel, half a grain of opium, and quarter a grain of tartar emetic in a pill every hour for three hours.

Simultaneously with the application of the hot packing, a linseed meal poultice, smeared with a liniment, composed of strong liquor ammonia, tinct. lyttæ, and turpentine liniment, was applied over the whole length of the spine, and allowed to remain about an hour, when it was carefully withdrawn without removing the bed clothes.

He was allowed to remain in the perspiration induced by the packing, the heat being, of course, modified by the careful removal of the extra clothes, for several hours; he told me that he did not feel much relief from the perspiration just at first, but the pain gradually subsided; and, at the expiration of about three hours from its occurrence, the secretion of bile had returned, and the matter which he now vomited appeared of an intensely bright green colour, and was voided in considerable quantities. This bilious vomiting continued at intervals during the whole of the Sunday, but the pains had ceased, and his skin continued in a gentle moisture, and quite warm; some small doses of calomel and rhubarb were ordered to act upon the bowels, which had not been moved since the seizure, but they did not produce the desired effect.

Monday (next day.)—Has passed a more comfortable night, although he has been occasionally harassed by the bilious vomiting; he is, however, in all respects, certainly better. He was now lying with only the usual quantity of bed clothes, but remained quite warm; ordered to take an aperient draught, with rhubarb and magnesia, and in the afternoon he had an ordinary bilious motion, when the vomiting of bile completely ceased, and he has not been sick once, the whole of the bile appearing to pass by stool. From this period he gradually recovered, and, on the Friday following, five days from the period of the attack, was so far convalescent as to be able to go out of doors a little; but he felt extremely weak, and continued so for some time afterwards.

My esteemed friend and colleague, Dr. Woodhouse, saw this case several times in consultation with me, and expressed himself much pleased with the effects of the water-packing, in recovering the patient from the state of partial collapse into which he had fallen in the early part of the disease; and, as he had a case of the same kind under treatment at the time, determined to give it a trial the same evening; the notes of this case, taken by Dr. Woodhouse himself, with great care, and which he kindly permits me to publish, are faithfully transcribed in the succeeding case:—

"*Case* 6.—Mrs. ——, aged 24, was seized about eight o'clock on Sunday morning, October 14, 1849, with a sudden and violent vomiting of bilious fluid from the stomach, for which effervescing draughts, opium, creasote, and various other remedies were administered without appearing to have the slightest effect in checking it. Sinapisms and blisters were applied to the epigastrium, but still the distressing vomiting continued. There had been no diarrhœa. She shortly afterwards became extremely cold, with a feeling of great shivering and exhaustion, pulse feeble, and scarcely distinguishable at the wrists; her voice feeble, and altered from its natural tone, and, altogether, she appeared to be approaching the state of extreme collapse. Finding all the above-mentioned means had failed to check the vomiting, and restore re-action, I determined, about half-past eleven at night, as the symptoms were becoming increasingly urgent, to try the effects of the hot-water packing, as described by Mr. Bulley, in the *Medical Times* of August 29 for the treatment of scarlatina.

"The effect of the application was, that she almost instantly fell asleep, and remained in that state for an hour and a half, at the end of which time she complained of a sense of suffocation, and earnestly desired to be liberated from the confinement and heat to which she had been subjected. On removing the wrappings, it was found that her skin had become uniformly warm and moist, and her pulse had risen to its natural fulness; the bilious vomiting had ceased, and from that time she began gradually to recover. Two days afterwards all the symptoms of the disease had disappeared, but she remained extremely feeble. The secretion of urine, which had been suspended for twelve hours previous to the application of the packing, was found to be restored shortly after its discontinuance. On the following Sunday, seven days from the date of the attack, the patient was convalescent."

Remarks.—The foregoing cases have been selected from fourteen similar ones, which have come under my observation during the prevalence of the late epidemic; they have not all of them been altogether such severe instances of the disorder as those which I have related, but they have all been subjected to the same method of treatment, and, with the exception of one which terminated fatally, after twenty-two days' duration, from phrenitis, occasioned by the incautious administration of too much wine by a servant, have all been followed by the same favourable results.

The presumable *modus operandi* of this remedy has been so fully discussed in a recent communication to the *Medical Times*, that it is scarcely necessary to advert to it again; and I would only say, that it appears to act by anticipating the operations of nature to relieve the disease, with the advantage, perhaps, that the hot stage of the natural re-action is shortened, and the sweating, which appears to be the end and object of all natural febrile actions, in sured without any particular distress to the constitution. It would appear also, that, over and above the relief of the internal congestion by the restoration of the cutaneous capillary circulation, which has always followed this method of treatment, something may be due to the elimination of the poison of the disease, or a part of it at least, through the profuse and prolonged perspiration to which the patients have been subjected.

I have been frequently asked, if I thought the method of treatment I have suggested would be applicable to cases of extreme collapse, and I have invariably answered, No; because, considering this state to be a moribund condition, ensuing either through the original intensity of the seizure, or the failure of remedial means, it is no more possible to restore a patient from this condition in this disease, than it is in any other, where the powers of life have been so far subdued as to render recovery impossible; it is only available in cases of moderate

intensity, which might, and probably would, lapse into the state of extreme collapse if left entirely to nature.

It would appear, that, in some of the most severe and protracted cases of this disease, although the circulating functions seem to have been partially or even wholly restored, the system of organic nerves, which have been paralysed by the long-continued congestion to which their ganglionic centres have been subject, does not recover its healthy tone of action, but remains more or less completely paralysed till death; and, in this respect, its condition may be likened to a paralytic limb, ensuing from congestion of the brain, which often remains in that state for a considerable time after the congestion has been removed, and the brain has recovered its healthy function,—with this important difference, however, that, from the sympathetic nervous system being so essentially necessary to the continuance of organic life, the organic functions cannot be maintained while the paralysis continues, and the patient gradually declines from sheer sinking of the vital powers. In such cases as these, which I have read of, but never seen, it has struck me, that electro-galvanism, which, in cases of atonic dyspepsia, arising from a presumable torpor of this system, is often of great service, might be a valuable means of removing, or at least relieving, this paralytic condition.

It will be observed, that very little medicine was administered in the cases I have related; in some of them, the cardiac mixture, with the oil of cloves, given in the early period of the attack, seemed to afford relief; small doses of opium also, at this time, appeared to be of service, on the presumption that the congestion of the ganglionic nervous system was preceded, as is generally the case in other diseases depending on congestion, by irritation, but afterwards, where the congestion was fully established, it seemed to do harm by increasing it; in the majority of the cases, I relied almost entirely on the hot-water treatment, with the general effects of which, as partially illustrated in the foregoing cases, I had every reason to be perfectly satisfied.

If it were possible to observe the natural progress of a case of genuine epidemic cholera which had not been interfered with by any kind of medical treatment whatever, we should be enabled to see how far unassisted nature of itself was capable of overcoming the disease, and we might also be able to form a better judgment as to the extent to which we might reasonably go in the administration of the remedies which in other diseases of an analogous character are found to assist her efforts; taking into consideration that the re-active powers of the system in this disease, display themselves in proportion to the greater or less intensity of the collapse, and *vice versa*, and that, *cæteris paribus*, the re-active fever would most probably be most violent when the preceding collapse had been most severe, and this holds good in regard to several other diseases. It would also seem probable, that a natural recovery from a severe attack of this disease, would mainly depend upon the constitutional powers of the individual attacked, thus a person having a naturally feeble circulation, or suffering from a debilitated habit of body from any cause, might experience a very slight or no reaction at all, from the state of collapse, while a person of greater constitutional vigour, and stronger frame, might be subject to such an amount of it as would prove dangerous, or even fatal in the result; it would therefore appear, that in an extreme case, a strong man and a feeble one would stand much about the same chance of a natural recovery from the disease, the strong man might die from the effects of the excessive re-action, the feeble one from no re-action at all, or at least an imperfect one, and it was this consideration which led me to adopt the remedy which I found so successful in the foregoing cases, and which, I think, would answer in most cases of this disease where the collapse was not extreme, either by its power of encouraging reaction in some cases, (which, when properly applied, it almost invariably appears to do,) or in moderating it in others, which latter it appears to be particularly capable of effecting, by the ready means it offers of regulating the critical perspiration by the gradual removal of the coverings used in the process. In a feeble subject, there is no great fear of an excessive re-action; in this class of cases, the principal care would be, so to moderate the perspiration induced by the process, as that it should not produce an excessive debility, which a little attention to the after management of the induced sweating would prevent.

From all that I am able to understand of the disease, both from what I have seen of it myself, and from what I have gleaned from the observations of others, I have great reason to believe, that internal remedies, whether of a stimulating or anodyne nature, if not administered during that particular phase of the disorder which precedes the state of actual collapse, frequently do more harm than good; but I am also ready to admit, that, in the early stages of the malady, both these classes of medicine are capable of effecting great benefit: thus, in 36 cases of diarrhœa which occurred in the prison during the prevalence of the epidemic, small doses of the muriate of morphia, combined with a carminative, were given in the very commencement of the attack, which seemed to allay the irritation that accompanied the first occurrence of the internal congestion, and assisted in the restoration of the cutaneous capillary circulation, which, in many of them, was beginning to fail; and in this way, with the exception of two which lapsed into a malignant form, the disease quietly subsided.

The same may be said of the beneficial effects of calomel, which, according to the opinion of the most celebrated writers on its therapeutic action, has the power of stimulating the capillary circulation of the liver, and probably that of the system generally; and there is no doubt that in that stage of the disease just preceding the actual collapse, this remedy, by thus stimulating the capillary circulation, may be, and has indeed been proved to be, of the greatest service, by aiding the restoration of the animal heat; but when the stage of collapse has fully arrived—when all the organic functions have become paralyzed—when the assimilative actions of the body are annihilated, through the total inertia of the organic nervous centres—when neither medicines nor food can be turned to their proper account—it stands to reason that internal remedies generally can be of no particular use; on the contrary, they do great harm; for, when indiscriminately given during the period of collapse, they are not (owing to the interruption or suspension of the absorbing functions of the lacteal system), taken into the circulation; but if frequently repeated during this stage, as they often inconsiderately are, they accumulate in quantity, and remain unchanged in the stomach, of course not producing the slightest effect upon the disease, and the patient either sinks in the collapse unrelieved by the remedies, or, on the contrary, if, either through the natural reactive powers of the system, or by the successful application of the ordinary external means, reaction, and consequently the assimilative functions, be only partially restored, then the medicines which have been collecting in the stomach begin to act in their accustomed manner, but, from the quantity accumulated, act excessively, and thus we find, that, even after reaction has been perfectly restored, the patient will die either in a state of stupefaction if opium has thus been administered in excess during the collapse; or, on the other hand, from excessive secondary fever and irritation if calomel has been used in the same manner, and the same theory would hold good of other remedies of the same classes, provided always that the collapse was extreme, and the vomiting had altogether subsided, as is frequently observed in the last stages of the disease.

CHOLERA IN TAUNTON WORKHOUSE.—A Correspondent of the *Times* gives the following classification of 60 persons who have died in the above workhouse, where the cholera has raged with great violence:—Belonging to the Girls'-school, 25; Boys'-school, including the master, 10; male adults, 9; female adults, 9; men above 60 years, 4; women above 60, 2; infants, 1. It appears, from the statement of this Correspondent that a searching investigation is necessary.

HOSPITAL REPORTS.

ST. BARTHOLOMEW'S HOSPITAL.

OPERATION FOR THE RELIEF OF AN OLD STRICTURE OF THE URETHRA, COMPLICATED WITH A PERINEAL FISTULA.

This operation has been lately performed by Mr. Stanley under the following circumstances. A young man fell upon his perineum about two years ago, and ruptured the urethra. This injury was followed by a stricture, which gradually increased, until in December last the urethra gave way behind it, and occasioned effusion of urine. In this condition the patient first came under our notice in the hospital. He was then treated, as such cases usually are,—that is, an incision was made into the perineum, to afford a temporary passage to the urine. When the immediate effects of the effused urine had passed off, Mr. Stanley set about dilating the stricture. After repeated piercings with the stilette catheter, he succeeded in introducing a large sized gum elastic catheter into the bladder, and then left it there for six days. At the expiration of that time, the catheter was removed. All this, however, was productive of no benefit, for the urine still continued to flow in by far the larger quantity through the wound, and the man left the hospital in very indifferent health, with a bad stricture, and a urinary fistula to boot.

After having spent the summer in the country, our patient returned a few weeks ago to the hospital without the slightest amendment, and anxious to undergo any operation which afforded a chance of relief. On Saturday last Mr. Stanley divided the stricture by an incision in the perineum, and then passed a full-sized catheter through the entire course of the urethra into the bladder. But we will describe this proceeding a little more in detail. The patient is placed in the position for lithotomy. A staff is passed down the urethra to the seat of the stricture, which, in the case before us, was about the bulbous portion. An incision is then made in the middle line of the perineum, and, with the forefinger of his left hand in the wound, the operator guides the knife into the groove at the end of the staff. The next, and by far the most delicate part of the operation, consists in cutting through the whole of the strictured portion of the urethra, so that a female catheter may be passed from the wound through the remaining sound portion of the urethra into the bladder. This done, the staff is withdrawn, and, with a little manipulation, it is easy to pass a full-sized elastic gum catheter through the whole course of the urethra into the bladder. The catheter, of course, must remain in the urethra, until the integrity of the canal is restored.

The above proceeding appears to be a most rational mode of dealing with these otherwise intractable cases of stricture. We might adduce two other instances which Mr. Stanley has recently treated in a similar manner with success. But we will watch the present case to its close, and report the result of it on some future occasion.

REMOVAL OF NECROSED BONE FROM THE INTERNAL CONDYLE OF THE HUMERUS.

William Wheeler, aged 21, the subject of this operation, is now in Bentley Ward, under the care of Mr. Stanley. About two years ago he received a smart blow on the inner condyle of the humerus, from the fist of one of his companions. A swelling subsequently arose on the inner side of the elbow, and gradually increased in size, accompanied with considerable pain. When admitted into the Hospital, about ten weeks ago, the swelling was of the size of a hen's egg, remarkably hard, and painful on pressure; the superincumbent skin was not discoloured, and the movements of the elbow free. Upon the whole, the precise nature of the tumour was at that time doubtful. But the disease soon afterwards became evident; partial suppuration of the swelling took place, the matter was evacuated, and dead bone discovered at the bottom. For some weeks the case was left to nature. Finding, however, that the motion of the elbow joint was likely to be seriously and permanently impaired by the

condensation of the surrounding tissues, Mr. Stanley considered it right to make an attempt to remove the diseased bone. Accordingly, a free incision was made, care being taken not to divide the ulnar nerve. The necrosed bone, which proved to be a portion of the internal condyle, was then removed by the forceps. There was no reason to apprehend that the elbow joint was opened in the operation.

OPERATION FOR THE RELIEF OF A STRANGULATED FEMORAL HERNIA, WITHOUT OPENING THE SAC.

This operation was performed a few days ago by Mr. Wormald. The subject of it is a female, aged 77, now in Lucas Ward. She has had a reducible femoral hernia for twelve years or more, but has never worn a truss. She was brought to the hospital on the 15th Nov. with well-marked symptoms of strangulation of the bowel. Castor oil, a warm bath, an injection of the compound senna mixture, and ice to the tumour, were tried in succession without any benefit. After about forty-eight hours' strangulation, the operation was performed. A perpendicular incision, two inches long, was made on the inner side of the tumour, and the subcutaneous tissue removed so as fairly to expose the hernial sac. A director was then introduced into the femoral ring on the inner side of the sac, and the stricture divided; after which the intestine was returned without any difficulty. The patient has progressed favourably since the operation, and is now doing well.

We would direct attention to an improved kind of director employed by the operator on this occasion—an improvement, we believe, which is one of his own. This director differs from that in common use in being much broader, but with a very much shallower groove. One can easily understand that an instrument of such a form can be introduced beneath a stricture with great facility, and that it has, besides, the great advantage of keeping the neighbouring parts out of the way of the knife during the division of the stricture.

Mr. Lawrence has lately had occasion to operate upon two females with strangulated femoral herniæ. In the one the bowel could be returned without opening the sac; in the other it was necessary to do so, the stricture not being immediately caused by the femoral ring. Both cases are at the present time progressing favourably towards recovery in Queen's Ward.

COMPOUND DISLOCATION OF THE ANKLE.—ATTEMPT MADE TO SAVE THE LIMB.—AMPUTATION AFTER THE TENTH DAY.—DEATH OF THE PATIENT.

Charles Hollis was brought into Kenton ward, and placed under the care of Mr. Stanley on the 30th of October, 1849. He is a man of middle age and very intemperate habits of life. He was standing on the wheel of a cart, when, in consequence of the cart being moved forwards, he fell, and the left foot became entangled between the spokes of the wheel. The injury thereby occasioned was a compound dislocation of the ankle. The skin was torn across nearly half the front, and the whole of the outer side of the joint and the lower end of the fibula protruded through the wound. It was evident, also, that the tibia was dislocated forwards. The anterior tibial artery was exposed, but apparently uninjured. The posterior tibial vessels and nerve were also uninjured. The question of immediate amputation arose. In consideration of the age of the patient and the integrity of the main vessels and nerves of the foot, the question was determined in the negative. Accordingly the dislocation was reduced while the patient was rendered insensible by chloroform, and the limb was placed upon the side.

During the night following the accident, the patient became delirious, unpacked the splints, and caused much additional mischief to his leg, by attempting to get out of bed.

On the third day, inflammation, of an erysipelatous character, commenced in the skin and subcutaneous structures of the leg, accompanied by fever, a furred tongue, a rapid pulse, and great excitement of the nervous system. The inflammation quickly extended to the knee, and so on up the thigh, nearly to the groin. Leeches, in the first instance; and, subsequently, incisions, had no effect in arresting the inflammatory process. The subcutaneous tissues became infiltrated with pus, and large portions of the skin here and there sloughed. With this extensive suppuration and sloughing the strength of the patient began to decline from day to day. His pulse grew more rapid and feeble, his tongue became dry and brown, and his nights were passed without rest. Notwithstanding the efforts which were made to support the sinking powers of the constitution, it was obvious that, under existing circumstances, death was inevitable; accordingly, after consultation with his colleagues, Mr. Stanley amputated the limb, by the circular operation, on the tenth day after the injury. Such was the feeble state of the circulation, that only the femoral artery required a ligature.

During the first few days after the loss of the limb, our patient did certainly appear to rally, and sanguine expectations of his recovery were entertained. But we were disappointed. The skin of the stump sloughed, and no effort was made to throw it off. The digestion gradually failed, till the stomach finally rejected all nourishment, and death ensued on the 11th day after the amputation, and the 21st after the accident.

At the close of this case the question naturally suggests itself, whether, in severe injuries of this nature, happening to individuals who are known to be habitually intemperate, immediate amputation does not give a better chance of life.

The nature of the injury sustained by the ankle-joint was found to be of a very unusual kind. All the ligaments were torn without any fracture. This state of things presented a remarkable contrast to a case of compound fracture amputated about the same time, where both malleoli were found to be fractured, while the ligaments were entire.

[For the history we are indebted to Mr. Harry Thorold.]

COMPOUND FRACTURE OF THE SKULL, UNATTENDED BY A SINGLE SYMPTOM OF INJURY TO THE BRAIN.

We cannot forbear from attracting passing attention to this case, which is still detained in Kenton Ward under the care of Mr. Stanley. It is that of a young man, by name James Sullivan. On the 20th of October last, he was struck on the left parietal bone by a brick, and finding that the scalp was wounded, he walked to the hospital to have his head dressed. The house-surgeon, putting his finger into the wound, discovered that the bone was fractured, and, under the apprehension of more serious results, very properly took the man into the hospital. Up to the present time, however, the case has progressed without a single untoward symptom. No complaint has been made of pain in the head. He sleeps well, and would eat and drink well if he were allowed to do so. Indeed, the man has throughout felt so well, that he cannot understand why he should have been detained in the hospital at all.

PROGRESS OF MEDICAL SCIENCE.

SCOTLAND.

[From our Edinburgh Correspondent.]

The first meeting of our Medico-Chirurgical Society, for the season, took place on Wednesday, the 21st of November, Mr. Syme, the President, in the chair. Instead of an opening address, Mr. Syme gave at once an account of an unusual form of hernia, in which he had operated successfully a few weeks ago. Mr. Syme will doubtless publish a more exact history of this case than could be collected from an oral statement. In the billet the case was set down as an internal hernia. It was not, however, an internal inguinal, that is to say a ventro-inguinal hernia, as that name might suggest, owing to the operation having been performed in the region of the inguinal canal. It was internal in another sense, as not having issued from the abdomen at all. The patient, a corpulent man, about fifty years of age, six months before had become subject to an inguinal hernia of the right side, for which a truss was worn during four months and a half, and then left off, as the disease had entirely disappeared. On the 13th of October, six weeks after the truss had been discontinued, Mr. Sidey was called to see him in the night, and found him suffering under symptoms resembling those of strangulated hernia. At that time Mr. Sidey was able to discover a tumour the size of a hen's egg, in the right iliac region; but the next day, when Mr. Syme saw the patient, there was so much general swelling of the abdomen, that neither he nor Dr. Patrick Newbigging could detect the tumour of the night before, as described by Mr. Sidey. The last gentleman, however, distinctly pointed out its seat, and even thought he could still discover its outline. Mr. Syme, seeing that the case was one of manifest urgency,

Mr. Sidey's known accuracy of obs

mined to operate. An incision was made throughout the whole extent of the inguinal canal, and the superficial epigastric was taken up. No hernia appeared in the canal, but on further dissection, the remaining coverings of the cord being divided, a dark-coloured tumour was seen near the superior aperture. The sac contained intestine, and the stricture was particularly firm. By perseverance, however, the finger nail was first insinuated, and, finally, a probe-pointed bistoury, by which the stricture was divided sufficiently for the return of the hernia. The recovery was complete. Mr. Syme added some observations on the difficulty of determining what was the cause of the stricture in this case. This case appears to belong to those coming properly under the head of internal strangulation, as when the stricture is caused by the presence of some preternatural band or ligament within the abdomen; and if it be properly referred to this head, it stands by itself as having admitted of a cure by operation.

Professor Simpson next made a communication to the Society "on the detection and removal of Intra-Uterine Polypi." The Professor began with remarking on the common idea, that polypous tumours of the cervix and of the body of the uterus, must make their way into the vagina, so as to become accessible for removal before the hæmorrhage, and other ill effects resulting from them, could prove fatal. It appears, that this idea must be received with great limitation. Death has taken place from exhaustion under the sudden expulsion of a uterine polypus, And Dr. Simpson exhibited to the Society a beautiful preparation of the uterus with a large polypus contained entire within its body, taken after death from an unmarried woman, in whom, by exploration through the os and cervix uteri, the existence of the polypus had been ascertained, but which proved fatal, as she refused to submit to any ulterior treatment. His plan of treatment, after the discovery of the presence of polypi in the cervix or in the body of the uterus, is to dilate the parts by means of sponge tents. The tents which he employs are narrow and acuminated, corresponding to the diameter of the os and cervix uteri, and are made by dipping the sponge, not in melted emplastrum ceræ, but by means of a solution of gum arabic, so that the natural moisture of the parts either alone, or assisted by injected fluids, quickly enabled the sponge to dilate. For the small cellular polypi of the cervix, the use of one tent for a few hours commonly suffices; but for the large polypus of the uterine cavity, several tents in succession are requisite. After the dilatation of the parts, the means of removal fall under the same rules as when the polypus penetrates spontaneously into the vagina. A short discussion followed, which turned chiefly on the error occasionally committed of mistaking inversion of the uterus for polypus. Dr. Simpson remarked on the importance of ascertaining the small depth of the uterus in inversion as a diagnostic sign.

There was then read "A Case of Intestinal Calculi," transmitted to the Secretaries, by Mr. Sharp, of Cullen. The patient was a child six years old. Several concretions had been passed, or extracted, which were exhibited; they varied from 4½ to 6½ inches, in their largest circumference. These concretions were plainly composed of fibres derived

from the coverings of the oat contained in oat-meal. In the conversation which followed Drs. D. Maclagan and Bennett referred to the papers which had been formerly read before the Society on the concretion from the oat. Dr. Maclagan ascribed the diminution of the disease in those districts of Scotland where oatmeal constitutes the chief part of the food of the population, to the more perfect winnowing of the meal. Dr. Bennett reminded the Society of the felting and adhesive property of the fibrous matter of the oat-grain, as pointed out by Dr. Carmichael, of Buckie, and of the artificial concretions which that gentleman had sent to the Society the summer before last. Dr. Carmichael's statement is so remarkable that we think it worth while to transcribe it:—"This substance, (the hairy covering of the oat-grain,) when separated from the meal, is generally termed oat-dust, and is possessed of a remarkable felting property, superior, perhaps, to that of wool. This may be seen at any time in any oatmeal mill, where, by the rotatory or oscillatory motion of the harp, or wire-cloth sieve, that separates it from the grain, the dust shows a decided tendency to form into soft bulbs, and if anything suitable for a nucleus, such as a thread, or any other adherent matter occurs in its way, it will gather round it in layers, and thereby form masses of considerable size. This is more particularly the case, if the mass be occasionally wetted; for it seems the felting property of this, as well as that of wool, is increased by watery fluids." Dr. Carmichael also remarks, that oil destroys the felting property, and thus, such concretions are not likely to form when a sufficiency of oleaginous or animal food is taken along with an oatmeal diet. Professor Goodsir remarked, that peculiar arches in the form of the colon were probably connected with the formation of concretions from oatmeal, as the horse, in which the colon cells were so largely developed, was particularly liable to concretions.

Under the head of Medical News, Dr. William Gairdner gave an account of the use of chloroform, as he had lately seen it administered in some of the London hospitals. The several speakers who took part in the subsequent discussion expressed their continued faith in the safety and efficacy of chloroform. In general, however, the use of the inhaler, practised in London, was considered as less safe than the handkerchief, as advised by Dr. Simpson. Some circumstances were mentioned as indicating extreme carelessness in the mode of its administration in several hospitals. Mr. Syme took credit to himself for having been opposed to etherisation, but as to chloroform, he said, he considered its extensive and almost daily use in the Edinburgh Infirmary for so long a period, without a single accident, as conclusive in its favour, when used in a state of purity and in a proper manner. He considered the half-and-half mode of using it as excessively injurious. As there was, he said, a decided prejudice against the employment of this agent in surgical operations, in which it was so eminently advantageous, it had become necessary that those associations of medical men which, like the majority of this Society, were satisfied of its safety, should exert their influence to overcome that prejudice. Dr. Simpson said, that much of the chloroform employed in London was still imperfect, being made by pyroxylic spirit instead of alcohol, but that he understood Messrs. Duncan and Flockart, of Edinburgh, had lately received large orders from London for the pure chloroform, which they manufactured, by the use of which he anticipated a more favourable impression would be made in London as to the freedom of this kind of anæsthesia from inconvenience and danger. He went on to say, that chloroform had been charged with giving an unusual tendency to puerperal mania. In answer to this statement, he would refer to the case of a lady attended by Dr. Ebenezer Skae. This lady, on her first delivery, had become affected with puerperal mania without the use of any anæsthetic agent, while chloroform had been freely used in her second delivery without any such tendency. He proceeded to ask Dr. David Skae, superintendent of the Lunatic Asylum at Morningside, who was present, if he had met with many cases of puerperal mania that could be ascribed to chloroform. Dr. Skae answered, that of the cases of puerperal mania admitted into the asylum during the last two years, none had been subjected to chloroform during labour. Dr. Simpson then noticed a case, to show how readily unmerited blame might be cast on chloroform for ill effects following, though not caused by its use. A lady had a small fibrous tumour on the mamma, which she consented to have removed; and, on being asked, declined to be subjected to chloroform during the operation. When, however, Mr. Syme arrived the next day to operate, she thought she would like to have chloroform, but, none being at hand, the small operation was performed without it; yet the following night she was seized with severe symptoms, among which were considerable delirium, which, without doubt, would have been ascribed to chloroform, had it been employed. Mr. Syme added a case, in which he had recently taken up the subclavian without chloroform, where, the night after the operation, violent symptoms came on, along with delirium, which, in like manner, would have been ascribed to chloroform if that agent had been used.

SELECTIONS FROM FOREIGN JOURNALS.

TREATMENT OF ANEURISM BY ELECTRO-PUNCTURE.

A Memoir was lately read at the Academy of Medicine, on this subject, by M. Abeille. The aneurism was in the left subclavicular region. The subject of it was an old woman about 67 years The swelling between the scaleni was considered to be aneurismatic by a number of medical gentlemen, and by the reporter, from the annexed unequivocal symptoms:—A pulsating tumour, rising and falling, but sinchronous in systole, and diastole with the pulsation of the heart; partial diminution of the bulk of the tumour, by compression of the artery near the heart, while the pulsations in it cease; and conversely increased tension of it on compressing the axillary artery; *bruit de soufflet* evident, perceptible by the ear applied to the tumour, and produced probably by the friction of the current of blood on the layers of coagula in the sac; sensation of trembling communicated to the hand; anomalous character of the subclavian, which, arising from a trunk common to the primitive carotid, rises in an arch above the clavicle, so as then to run between the scaleni. The proof positive that the subclavian is the seat of the disease is demonstrated by pressure on the tumour being immediately succeeded by the cessation of the axillary and radial pulse.

The operation was performed on the 10th Feb., 1847, and the battery was charged with water, saturated with a mixture of the sulphuric and acetic acids. The battery consisted of twenty zinc and copper plates, ten centimetres in breadth, with four steel needles, from two to two and a half inches, covered to within a line of the head and point with mastic.

The patient was placed in the horizontal posture, with her head towards the right, being previously narcotized by ether. The needles were introduced in pairs, without crossing, about three-fourths of an inch, it being ascertained, from the absence of resistance, that they were in the sac. The electricity was strong, the sparks fine. The operation continued thirty-seven minutes. Every five minutes the poles were brought in contact with the opposite pair.

The patient awoke in about a minute; pain very severe, exclamations, agitation, convulsive movements of all the corpus, and especially of the left arm. In five minutes time the tumour began to become hard, resisting, tense; ceased to beat, and the pulse, like a thread, almost imperceptible. In thirty-seven minutes the needles were removed; two of them requiring a slight rotatory movement, leaving small superficial eschars, having a little suppuration at a later period.

The subclavian was partly compressed below the tumour by the thumb during the operation; and for ten hours afterwards, by means of a cushion having a kilogramme attached to it.

After the operation, the tumour was hard, without impulse or beating; bruit de soufflet gone, which had been heard in the sac previous to the operation. In twenty-four hours, the radial pulse had ceased to beat, the left arm became swollen and cold, and it was requisite to apply bags of warm sand. No pulse; rigidity during nearly forty-eight hours. The pulse returned, as the heat of the limb was recovered. On the third and fourth day from the operation, two bleedings from the arm were practised in consequence of cerebral congestion.

From the fourth day after the operation, the tumour began to diminish, On the tenth day this was distinctly palpable; and on the eighteenth day it was only half the original size.

For several days it became stationary, and then it declined gradually and slowly. The thirty-seventh day, no swelling observable; sensation of an oval body, situated deep, flattened, hard, in the position of the tumour. Three months after, there was still some appearance of this hard body, and the pulse was weaker in one arm than in the other. At that period, the artery above had increased somewhat in magnitude, and three secondary trunks were observed arising from it, which had not been previously noticed, which we presume to have been the vertebral, the inferior thyroid, and the posterior scapular.

At present, two years and a-half since the operation, the artery presents the same appearance, having gained no increase in bulk; and there is still to be felt in the position of the original tumour a dense resisting body; though a certain amount of pressure by the finger is requisite to make it be felt. Its size is not so great as formerly was noticed.

As to the advantages of the operation, M. Abeille concludes with these observations:—

"The pain produced by the electro-puncture seem not to be measured by any other kind of pain. This reason seems to him sufficiently strong for employing, by preference, the ligature in every instance where it can be put in practice, as in aneurisms situated on the extremities. The dangers of the electro-puncture, the inconveniencies, if not accidents which it may occasion, are equivalent, if they do not exceed, those of the ligature; hæmorrhages, supposing the operation be not successful, cauterisation of the skin, and of the walls of the sac, subsequent suppuration, and dangerous hæmorhages. Were it less painful than the ligature, it may be tried, resorting to the latter, should it fail. As, however, it neither diminishes pain nor danger, it can never rival the ligature in aneurisms of the extremities."

In conclusion, then, electro-puncture may be of immense advantage in certain exceptional cases, despite the severity of the pains which attend on it. It is the only *merit* it can claim. It would, however, be unequalled, if it were proved, by a number of facts, and by pathological researches, that the employment of it was invariably followed by the coagulation of the blood.

TRIBE OF THE GHILANES (LORD MONBODDO'S ORIGINAL MAN.)

M. du Courey, traveller in Africa and Asia, has lately read before the French Academy an extract from his travels, referring to the tribe of the Ghilanes, a breed intermediate in character between man and the monkey family, living in Central Africa, (South Soudan.) The following are his notes made on this tribe, from what he had learned from the Arabian Djelabs and Nubian, and from what he himself had witnessed in the person of one of the natives:—

The Ghilanes constitute a peculiar race, as they have a great resemblance to the monkey.

Shorter than the other negroes, their height rarely exceeds five feet. Their proportions are generally unharmonious. The body is weak, and appears feeble. The arms long and thin. The hands and feet longer and broader than in other tribes; the lower jaw strong and much elongated; their cheeks prominent; the forehead short, and strongly directed backwards; the ears long and shapeless; the eyes small, black, brilliant, and exceedingly mobile. The nose large and flat; the mouth large, armed with acute teeth, powerful and exceedingly white; the

lips thick and large; the hair curly, but not very woolly, not thick, short. But in this they are specially distinguished, that the vertebral column is continued externally and inferiorly, so that both males and females possess a tail from two to three inches in length.

EMPLOYMENT OF NEURONISM IN CHOLERA.

By Dr. WAGENINGE.

We require here to draw a broad distinction between the theoretical and practical portion of the paper. The first embracing observations on the nature of the cholera, sufficient to justify the Author in treating the affection by neuronism, or animal magnetism. The second refers to the practical results procured by that plan.

The theoretical portion is that which more particularly demands attention. The Author, in fact, engaging in a question very much agitated altogether recently in Belgium, the subject of the primary pathological elements of the cholera shows with tolerable precision, that the first appreciable morbid action of the malady is not the coagulation of the blood. To the reasons we have already had occasion to urge against that proposition, he subjoins others, the most conclusive of which, without question, is the following. "If," he observes, "the blood had been first affected, and not the solar plexus and the sympathetic and pneumogastric nerves, the first morbid symptom must have been in the heart and in the lungs, (anxiety, palpitation, and syncope,) and not in connexion with the stomach and intestines, (vomiting and diarrhœa)." As may readily conceived, it is in the nervous system of ganglions that the Author places the first pathological change made on the system by the efficient cause of the cholera. But though we suppose that to be a satisfactory reason for subjecting the cholera patient to the magnetic treatment,—and though it were admitted that the magnetism is successful, because it is tonic and stimulant,—we have our doubts, notwithstanding the different remarks the Author has brought forward in support of his views. With this object in view, and to come to the practical point of the matter, we shall satisfy ourselves in extracting the only passage which bears on the magnetic treatment in the general Report of the Commission appointed by Government to examine the subject of the treatment of the cholera. The Author would observe, and in that we concur with him, that it is not decidedly unfavourable to *neuronism*:—

"We have only once," observes the Report, "seen animal magnetism employed on the person of a negro who experienced most violent cramps in the extremities; and, though a general remission of the parts spasmodically affected followed the application, it was but of temporary duration: in this way, that when the manipulation was practised on the lower extremities, the spasms were renewed in the upper, (the same appears to have taken place in one of the cases reported by M. Wageninge). The patient died a few hours after. Though we have not seen that the application of animal magnetism has been attended with a permanent relief of the disease, its action has sufficiently proved, in this most desperate case, its efficiency in relieving the cramps, so as to be deserving the attention of medical men at the outset of the disease."—*Ann. de la Soc. Med. et Chirurg. de Bruges.*

APPOINTMENT OF SURGEON TO THE QUEEN'S PRISON.—We have much pleasure in stating that the Secretary of State has been pleased to appoint Mr. R. L. Hooper, of the London-road, Southwark, to be Surgeon of the Queen's Prison, (vacant by the lamented death of Mr. Thomas Morton,) notwithstanding the great interest made by upwards of fifty candidates of the highest professional reputation. This must be considered an act of justice rendered to a gentleman who has performed nearly all the medical duties of the Prison for the last twenty years, and, at the same time, it reflects the highest credit upon Sir George Grey for his impartiality and discrimination. The office of Assistant-Surgeon to this prison (so long held by Mr. Hooper) is now abolished, and such an appointment would never have been necessary if the Surgeon had not resided so far from his duties.

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THE MEDICAL TIMES.

SATURDAY, DECEMBER 1, 1849.

IN the two Articles on our Sanitary Laws, we endeavoured to indicate briefly those crying social evils which surround the home of the poor man in our large towns, which encompass him with the agents of disease, and pollute both his physical and moral health. Whether these evils are ancient or modern; whether they have always existed or have lately arisen; whether, as asserted by some, they have diminished with our progress, or, on the contrary, have grown with our growth; whether they are peculiar to this phase of society, or are common to all periods of history, is a matter which we need not stop further to examine. Enough for us that they *do* exist, and are in opposition alike to all natural laws, and to the letter and spirit of those Divine rules to which this nation claims to pay peculiar homage.

Nor is it necessary, that in these pages the evidence of the existence of such evils should be given. We need not analyse the Reports of the Registrar-General, of the Inquirers into the Health of Towns, of Mr. Chadwick or of Mr. Simon. Enough for us that *our* readers are unhappily but too well acquainted with the condition of that class, to succour whom, the lives of so many of our Profession have been nobly sacrificed. Enough for us, that if any one doubt our statements, the path of inquiry is open to him; and if, after considering fairly the condition of our large towns, he puts not manfully his shoulder to the wheel, and demands not with us justice to the poor man, we will hold him as Dives, who, clad in Tyrian purple and in fine linen from the looms of Syria, saw without a sigh of compassion the neglected Lazarus dying at his feet.

It appears that now, with a willing Legislature and a sympathising public, we have commenced our Sanitary Reform—we are about to wipe off the neglect of ages. We are about to say to our labouring class, "here is an atmosphere no longer tainted with the elements of disease; here is abundant water, no longer corrupted with the refuse of decay; here are dwellings into which the light of heaven can unobstructed pass; now we give you health, so long a stranger to your homes, and many years of vigorous life, of which you and your fathers have been recklessly deprived. And, after this, we will give you possessions of still greater worth: household comfort, which has been but a visionary dream; decency, which has heretofore refused to dwell in your miserable homes; and moral health and virtue, which can exist only with their types and outward signs, health, cleanliness, and personal respect."

If our Sanitary Reformers can make these promises good, we will decree them statues of gold in the market-place, as the ancients honoured their heroes and demigods. Their names, familiar in our mouths as household words, shall be engraved in our records as those of men who have done the State good service. Conquerors, shall they be called, in a war more terrible than the conflict of men; soldiers, in a cause holier than the love of country and homestead. God's priests will they be, casting out the devils from the defiled body of the land, and making clean the temple, in which pure spirits should alone and unmolested dwell.

But, in order that this great work may not fail, or, at least in our generation, be shorn of its fruits, our Sanitary Reformers must recognise both the nobility and the gravity of their task. Let them receive, in good part, the advice we are about to offer them, as coming from those who are desirous only of giving true and faithful aid in this national purification.

And first, in all humility, we would venture to say, in so great a work, let no private motives of personal advancement or power sully those efforts which should be freely rendered to the cause for its own sake, and without more than that just recompense which men for their labour openly and fairly claim. Ill will fare the cause which has only to support it, the exertions prompted by a selfish spirit, or an ambitious and worldly design.

We would say, in the next place, know well what it is you want to do. Is it not to provide better air, better water, better dwellings, and, if possible, more wholesome food for the poor man? Is it not to see how unhealthy occupations can be best remedied; sickness be best obviated; the natural infirmities of man most easily removed? If so, you have no child's play before you; you have work which it will take more than a generation to do. Perform this work in such a manner, that your successors will not have to pull down the fabric you have commenced to rear, as insufficient and unsafe. And, in order to do so, consider first what it is which has permitted thoughtless and avaricious landlords to crowd helpless tenants into dwellings infinitely worse than those which a fox-hunter provides for his hounds; which has allowed a monopoly to Water Companies for profit, and has cared less for the poor who cannot complain, than the herdsman leading his steers to the fresh waters, cares for his dumb beasts; which has permitted men to be poisoned with effluvia from excretions which the merest rustic removes from his unreasoning cattle. Is it not the utter neglect of superintendence which has permitted such evils; a want of foresight, so extreme, that the most obvious consequences have not presented themselves; so great a dread of interfering with property, which is a mere human possession, that it regarded as nothing the sacrifice of life, which is God's own gift? Has not everything connected with our poor been permitted to proceed unnoticed and unchecked, although it is abundantly manifest, that if there be any duty of Government which is peculiarly sacred, it is this—to see that while property has its rights, it does not ignore its duties, and does not sacrifice for its own benefit the claims of those whom it knows cannot appeal against it!

But as an illustration makes an argument clearer than a volume of description, let us take

a case which at this moment occurs to us, and which is as simple and unsurrounded with difficulty as any of these cases can be, where public good opposes property.

During the prevalence of the late terrible disease which passed over our land, a singular exception to the general sickness was given by the town of Birmingham. The inhabitants of Birmingham rejoice greatly that neither in 1832 nor in 1848 did the cholera carry death and mourning into their streets. There are not wanting those who gave public thanks to the Supreme Ruler for his preserving and saving care. Well, when the cholera returns, in 1864, or whenever its next mysterious circuit may be, Birmingham will have no cause to rejoice. The Destroyer will not pass over it again without marking some doors with the sign of death. And for this reason—Birmingham is built on ground which is high, and allows natural drainage; its sewers run up no hills; its refuse fluids percolate and purify themselves in a sandy stratum which extends under nearly the whole town. The houses are, for the most part, without cellars, and, though often miserably dirty, are comparatively dry. No putrid drains nor stagnant waters give to the poison of cholera its local conditions of increase. Such is Birmingham now. Twenty years hence, will have arisen by its side another and a very different town. Close by the great railway station, on a tract of low marshy ground, watered by the river Rea, a tributary of the Trent, a new town for labourers is rapidly rising. Streets are laid out, and rows of houses are in course of formation. No pains have been taken to drain this low and unhealthy site; the floors of the cottages will be saturated with the water of the moist soil. Apparently, no sewers will be made, so the exhalations of cesspools will soon be added to the native malaria of the place. In less than twenty years there will be a large town at this spot. It will have been built in all the hurry, and with all the imperfections, of commercial speculation thinking only of its profit. Twenty years hence, our Sanitary Reformers will be reckoning what excess of mortality is yearly caused by this insalubrious site, and to what exact extent its moisture and its low level have augmented the third epidemic of Cholera.

Now here is a case of the simplest kind. Ordinary superintendence, and ordinary precautions will neutralise all these dangers. We would say to the Board of Health, your first duty is to prevent an accession to those remediable evils which, even now, annually destroy 30,000 persons in England alone. See that these landlords in Birmingham drain their ground, make their site healthy, build their streets so that air may pass along them, provide water for the poorest inmate, construct sewers which shall really be of use. If the Board reply that such superintendence and cautious interference is not in their power, we answer, demand then, the power from Government, and, if it be not granted, surrender the vain attempt to perform duties which it is impossible you can, without such power, worthily discharge.

The code of the Sanitary Reformers should be summed up in these three words: Recognition—Prevention—Removal. First, they should know well what it is they have to do; secondly, they should see that, henceforth, no additions are made to the overwhelming evils they discover; thirdly, they should determine the means by which, in course of time,—not in one year, nor in ten years, but by the unremitted exertions, it may be, of several generations,—the evils which have been permitted to grow up among us may be mitigated or removed.

We took occasion to remark, in our last Article, that the present mode of the administration of the Health Act leads us to doubt greatly whether the removal of existing evils will be accomplished by its means. We shall not return to this subject; but shall, in our next Number, give our own conception of the method in which the Government should attempt to solve this knotty problem. We claim for ourselves no originality, and no infallibility; we probe merely this social disease with such strength as has been given to us, and determine, to the best of our knowledge, what are its means of cure.

APPOINTMENTS AT UNIVERSITY COLLEGE.

We have already announced that the Professorships of Medical Jurisprudence and of Materia Medica at University College, vacant by the decease of Dr. Thompson, have been filled up by the appointments of Dr. Carpenter and Dr. Garrod. It is impossible that the College could have made selections which will be more approved of. Dr. Carpenter possesses an European and Transatlantic reputation, which has been well earned by the most unremitting exertions of abilities of the highest order, in the promotion and advancement of many branches of medical science. He has paid special attention to Medical Jurisprudence and Hygiene, and will do ample justice to a subject which is acquiring daily more important and practical applications. Dr. Garrod, also, is one of those from whom the medical public justly expect great additions to our knowledge of medicine. The researches in which he has been hitherto engaged have already yielded most interesting and valuable results, and have stamped Dr. Garrod's name as that of an excellent and industrious observer. University College has now filled up its numerous vacancies well and usefully, and we may venture to prophesy that this important Medical School will continue its admirable system of tuition as vigorously and as successfully as ever.

THE GENERAL MEDICAL ANNUITY SOCIETY.

The General Meeting of this Society took place on Monday evening, at the Hanover-square Rooms; and, as we consider that the objects of the meeting are of great importance to the interests of the Profession, we have given a report of the proceedings in another part of the Journal. There can be no doubt that Medical Practitioners in the provinces (for the Metropolis is to a great extent cared for) are in want of a Provident Society that shall afford to themselves, when disabled, and to their widows and orphans, a sufficient annuity to place them above the sore exigencies of sudden and unlooked-for destitution, on the payment of an annual premium, which, while proved ample to give security to the Society, shall not be so large as to deter the less fortunate Members of the Profession,—and for that reason the more requiring its benefits,—from subscribing to its funds. We have, for many years, maintained the necessity of such an Institution; our hearts are cordially engaged in its advocacy, and have ardently hoped for its realization, and we have trusted that the irregular struggles that have been recently made to attain this philanthropic object would gradually acquire method and consistency, and establish some ground of success.

It is well known that the plan of the Society, originally proposed by that excellent man Mr. Daniell, was so imperfect in its construction and Rules, as to be quite useless for its intended objects, and a Committee of the members of the Society was appointed some time since, to ascertain what modification of the Rules was necessary, in order to give the plan working capabilities. About the same period, a Mr. Hawtayne,—who, by the way, is neither a medical man, nor an actuary, nor, judging by his page of "Proposals," even a passable grammarian,—started a new project, imitative of the general plan of some dozens of other Societies already in existence. The Sub-Committee of the Annuity Society, it appears, have adopted and recommended this plan of Mr. Hawtayne's, under the limitation, however, of confining it within the circle of the Profession. The meeting on Tuesday evening was convened, to consider the propriety of abolishing the Society established by Mr. Daniell, both in its principles and plan, and instituting another, upon the principles of ordinary Annuity Societies, giving power, at the same time, to a Provisional Committee to spend all the funds subscribed, given, and bequeathed to the former Society, having specific principles, though a bad plan, for the purpose of organising a new Society altogether distinct and different in its basis and plan of operation.

A most interesting discussion took place, as might have been expected, upon this highly important question. Mr. Ross, in an argumentative speech, entered into an analysis of the statements and inferences contained in the Report of the Sub-Committee, and urged by them as pointing out capital defects in Mr. Daniell's scheme. He showed that the Report contained numerous inaccuracies and misstatements, which were, of course, unintentional, but which destroyed the validity of every argument in the Report, contending against the feasibility of Mr. Daniell's principles. As the Sub-Committee did not attempt to rebut any one of the points brought under their notice by Mr. Ross, we must presume that these errors and misrepresentations were indefensible. As this is a question that affects the vital interests of every member of the Profession, it cannot be settled, and ought not to be prejudged, by a blind appeal to the opinion of this authority or the other, but must depend upon the correctness of its propositions and the truthfulness of its proceedings for confidence and success. Another such Report would ruin the Society.

Assuming that it will be attempted to carry out the Society upon the new plan, time will

show, after the tables have been published,—for it can hardly be expected that men will be induced to join a Society without any tables of premiums being placed before them for approval,—whether this scheme will meet the wants of that large proportion of the Profession whom we most ardently seek to benefit. If it do not, we shall regret the lost opportunity most profoundly; if it do, none will rejoice more warmly than ourselves. At any rate, the want we have indicated exists; and when there is an evident mission, there will be also a man in due season The mass of the Profession must be moved before any plan of the kind can beget any hope of success; a general meeting of a dozen gentlemen, however well disposed, high-minded, and philanthropic, will not, we fear, effectuate any great results.

The Committee, however, should constantly keep in view the responsibility of their functions and the sacred character of their trust, and place the Society under the management of men of untainted repute; for if, by any chance, it should lapse into the hands of mere adventurers, their attempts will end in failure, more sad and prejudicial to the interests of the Profession than if an effort had never been made.

PROFESSOR OWEN AND THE SMITHFIELD COMMISSION.

The prospects of City Sanitary Reform are rather cheering at the present moment,—a Royal Commission having just been issued to inquire into the whole subject of "the live and dead meat" markets of London. The members of the Commission are,—Mr. G. Cornewall Lewis, M.P., (chairman,) Hon. Frederick Byng, Sir Henry Verney, Bart., M.P., Sir James Duke, Bart., M.P., Mr. William Miles, M.P., Professor Richard Owen, Mr. John Wood, (Common Councilman of Aldersgate Without); names which should assure the public, that the subject will be thoroughly investigated. We feel especial satisfaction in noticing the appointment of Professor Owen. His exalted intellect, and thorough knowledge of the subject of hygiene, render him eminently qualified for the post which he is called to occupy; and the Government has only discharged its duty, at once to science and civilization, by appointing this gentleman to take part in one of the most important investigations relating to the sanitary condition of the City of London. We entirely agree with our Contemporary, the daily *Times*, "that a more capable and unprejudiced man could not be found."

The Cholera at Eyemouth.—In this village, within the last twenty-four days, no less than 54 persons have died of cholera and fever, being at the rate of 4 per cent. of the population, which numbers about 1,400. On some days the number of deaths was as many as 8. Business of every kind has been totally paralyzed since the outbreak of the epidemic.

The Cholera and the Sanitary Movement.—We announced some time since an outbreak of the cholera in Taunton-street workhouse. In connexion with this fact we take from a local paper the following description of the *scale*:—"The Union workhouse has been built near the end of East Reach, in the lowest part of the town, where the deficiency of drainage and nauseous accumulation of sewerage at the back of the building have been the subject of complaint." These houses would be properly designated as "Institutions for the more speedy getting rid of the poor."

PUBLIC HYGIENE.

DRAINAGE; AS IT AFFECTS THE HEALTH, WEALTH, AND MORALITY OF SOCIETY.

No. I.

Comparative Insensibility of all Classes to the habitual Nuisances around them.—Languid Government and Parochial Efforts on the recent Visitation of Cholera.—Comparative State of the Public Mind on Preservation and Destruction.—Actual Present Condition of Main Sewers in Aristocratic and Wealthy Localities.

Certainly the influences of the mind upon the body are very wonderful, and in no respect more remarkable than in the extraordinary extent to which they can deaden any one or more of the external senses, or reduce this sense to a kind of passive endurance in the very face of its activity which one might naturally have anticipated would have risen in rebellion, and asserted its rights in some way or other. This may appear a paradox and contradiction in terms; but it is not the less an every-day fact. We know of no instances and demonstrations that can be stronger than those which instantly present themselves on the subject of bad drainage, and offensive effluvia from drains and sewers. Formerly, scarcely anybody ever noticed the stench from the gully-holes and gratings in the public streets. We never heard a word on the subject. But *now* the stench is in everybody's nose—the complaint in everybody's mouth. How is this? The same fact has existed for years,—probably for centuries,—and men's noses were as capable at that time of their natural action as at present; yet how few were those, if any, who ever noticed the abomination; and as to complaint, if it had been uttered aloud, the individual would surely have been regarded as a very eccentric person indeed, and the parish authorities would have smiled him down as one who was far "more nice than wise." The plain fact is, we never smelt the stench till we were told of it. And we have never smelt it in its full force till very lately, after having been told again and again that it was very bad, and very injurious,—that foul stenches could breed fevers, and that people had actually died in consequence. We have, therefore, at last, come to perceive, that these effluvia are very abominable nuisances, and that they ought to be abated.

Seeing, then, that the public is at length awake, and becoming, almost daily, more and more alive to the dangers which constantly threaten them at a few yards, perhaps inches, beneath their feet, and in the atmosphere all round them, the next question that presents itself is, how far the Government, (which so seldom leads, but which generally follows public opinion promptly, if not very energetically,) has been moved by the pressure from without, and what amount of energy, judgment, and good effect, has attended its measures and resulted from its efforts.

We cannot give a more statistical, accurate, and comprehensively condensed portraiture of the amount of Government and parochial efforts in sanitary matters, than is presented by the following extract, which refers to one of the most fatal weeks of mortality during the recent period of cholera, for the departure of which we have but now been offering up a General Thanksgiving. The writer incidentally, but most strikingly, alludes to the comparative amount of effort displayed in the discovery and apprehension of the two murderers who have just expiated their crime as a public spectacle:—

"In the week ending Saturday, August 25th, (says the masterly compiler of the Report of the Registrar-General,) the deaths in London were 2,456; of which 1,272 were by cholera, and 240 by diarrhœa.

"The energy with which parts of our institutions work, makes the defects of the rest more evident. On August the 9th last, a man was murdered in Bermondsey, and before his death, reported by the Coroner, will appear in these returns, one, and it is possible both the persons charged with the murder, will be in custody. Steam-ships, the electric telegraph, the heads of the police, and professional agents, specially chosen, were all employed to arrest *the destroyers of this one life*; the columns of the newspapers were filled with the details of his death. On the same day, a stockbroker died at No. 12, Albion-terrace, Wandsworth-road; a widow lady and an old domestic servant at No. 6; &c. &c."

The Report then goes on to particularise *nineteen* deaths in the same street, at the houses contiguous to Nos. 12, 13, within a very few days of each other, all of cholera. The Report then proceeds as follows:—

At No. 13, (inhabited by Mr. Biddle,) where the first death occurred, and where two deaths were afterwards registered, the refuse of the house had been allowed to accumulate in one of the vaults, which is a very large one, for about two years, and when removed, last week, the stench was almost intolerable, there being about *two feet of wet soil covered with maggots*. The drains also had burst; overflowed into the tank, and impregnated the water with which the houses were supplied. On the back ground was an open ditch, into which nearly the whole of the soil of Clapham runs. As turpentine to flame, so is the exhalation of such cellars, tanks, and sewers, to cholera. It broke out and diffused itself rapidly; it attacked many; and nineteen inhabitants after some hours of suffering, sickness, and spasms, expired."

"The effects of decomposing refuse and water on health were well known; their fatal subsidies to cholera had been heard of every day; yet no steps had been taken for their removal from Albion-terrace in July; no medical police had interfered to disturb the contents of Mr. Biddle's cellar; and now the nineteen masters, servants, parents, children, rest in their graves, it appears to be taken for granted that blame attaches to nobody—to nothing! Not to the householders themselves—to the guardians of the district—to the institutions of the country!"

The cause of this extraordinary disparity of effort is not far to seek, and is manifestly attributable to the present condition of education, and to what the author of "Orion" designates as the "diseased drama" of the trial, sentence, and execution of "murder heroes," compared with which, the philosophy of cleanliness and longevity seems but a dull consideration. Something, also, must be allowed for the construction of the human mind, in any case, which derives more excitement from destruction than from preservation, and is much more alive to the influence of imagination, of whatever colour, than the slow processes of reason.

Against facts like these,—added to a "hardness of hearing" in the Government,—the exhortations and efforts of Mr. Chadwick and Dr. Southwood Smith, though backed by the special powers of the Board of Health, have hitherto lost more than half their force.

But, however deficient in that "diseased drama" of *killing* interest which so attracts and rivets public attention, (not reckoning the recent melancholy death of the five men in Kenilworth-street sewer as of sufficient interest to the unthinking many,) we have yet to see how far the upper and middle classes—more especially the former—will remain insensible and indifferent when they become aware, as they shortly must, of the actual dangers directly beneath their feet. They are rapidly becoming aware that foul effluvia can cause death;—what will they say to the chances which constantly threaten them of a bodily *descent into the sewers*? This may happen any day to man or woman—to part or the whole of a house—to a carriage and horses—to half a street!

The proofs of the above statements are to be found in the reports of the "Subterranean Survey" now going on, by order of the Metropolitan Commis-

sioners of Sewers. As these reports have not yet been published, we are unable to give any extracts from them. The following statements, however, may be depended upon as substantially correct.

It appears that three several parties, of about half-a-dozen men in each, have been for some time actively engaged in the perilous and important office of a subterranean survey of the metropolitan sewers. Of this horrid work each party has generally completed a mile and a-half per week. In this way as many as *four hundred miles* of the sewers have already been surveyed. 200 still remain to complete the map of these dark regions—we had almost called them "infernal regions;" but it will be far more wise to designate them as the *safety-streets* of the health and life of the more sightly streets above.

The quantity of deposit—often of the most offensive and poisonous description—which lies at the bottom of many of the sewers, sometimes amounts to the extraordinary depth of three, and even four feet, and upwards. This is the case in the fashionable regions of Belgrave-square, and Eaton-square; in Spring-gardens, in Whitehall, &c. The amount of deposit in the different sewers so varies, that in order to render the spirit-level available under all circumstances, the surveyor is obliged to have three sets of legs to his instrument. Some times the deposit does not exceed five or six inches; on other occasions, as in some of the sewers in the Surrey and Kent districts, it amounts to as much as five feet, and emitting a poisonous effluvia.

Of the actual present condition of the sewers, it may be instructive to give a few specific examples.

In Belgrave-square, the sewers have a putrid deposit of above a foot deep. In Lowndes-place, the deposit is nearly two feet deep; the drains of the houses half choked up, and the effluvia quite dreadful. The same may be said of Robert's-mews and Belgrave-mews; while the brickwork of the sewers beneath Chapel-street, Belgrave-square, is in a broken condition, which renders it liable to fall in. The same danger exists with regard to the sewer beneath Grosvenor-place, the walls of which, for several hundred feet, are crushed; while the arch, being in some places without support, there is no security for its standing a single hour. This danger more especially exists at the end near St. George's Hospital. The sewer is almost in the same condition beneath Upper Eaton-street, Grosvenor street West. In Whitehall-place, the sewer is very much dilapidated, and the foul deposit amounting to two, and in some places three feet in depth. The sewer walls are liable to fall in, at many points beneath Queen Anne-street and Welbeck-street: and the same danger exists along upwards of *a thousand feet* of sewerage beneath Upper and Lower Berkeley-street and one side of Portman square,—in fact, similar dangers exist in regard to the north, south, and west sides of Portman-square. And so we may say of parts of Cavendish-square and Bryanston-square; so of Curzon-street; so of Harley-street; and so of Westmoreland-street and Woodstock-street, where the whole length of sewer may fall in, at any hour. Duke-street, Westminster, is scarcely any better; neither is Parliament-street,—the arch of the sewer being very often without any support for several successive feet, while the deposit is deep, and of the worst description. A part of the Admiralty sewerage is in an equally dilapidated and dangerous condition, &c., &c.

We could multiply examples, but enough has been said to display the perils to which we are constantly exposed from the condition of the sewers, the worst degrees of which are manifestly beneath the dwellings of the upper classes. The decay of the sewers beneath the houses of the rich, in especial, is easily accounted for. Being out of sight, they are not constructed of stronger materials than the sewers of humbler localities; yet it is obvious that they often have much more work to do.

It will hence be very intelligible, that the duties of the men engaged, either in surveying or cleansing the sewers, is a "service of danger." Converse with any of them, and you hear of half-suffocations, and faintings, and men dragged out on their backs through two feet deep of black slush, and burnings of the face and hands, and frizzling up of the hair, with other "hair-breadth 'scapes in the imminent deadly breach."

It may be asked,—touching the Kenilworth-street sewer, in which the five unfortunate men have just perished,—"Was not the condition of this sewer known? Certainly it was; but as so very many are known to be in as bad, or a worse condition, the authorities, of all kinds, did not see reason for giving it a particular attention.

REPORTS OF SOCIETIES.

GENERAL MEDICAL ANNUITY OR RELIEF FUND SOCIETY.

A general meeting of the subscribers to this Institution was convened on Monday evening last, at the Hanover-square Rooms, for the purpose of dealing with certain resolutions founded upon an elaborate Report which had been prepared by a Sub Committee, and forwarded to the members. This Sub-Committee having taken the various matters brought before them into consideration, came to the following conclusions:—

That an annual subscription of a guinea, or a fixed sum of any reasonable amount, (the plan on which the Society had hitherto been based) can never fulfil the primary design of the Society,—furnish a permanent provision for disabled members, their widows and orphans.—That a Provident Fund, such as Mr. Daniell contemplated, can only be made secure by payments graduated according to the fixed laws of statistics, and the exact calculations of a competent actuary.—That a plan based upon sound and safe principles, and adequate to the proposed end, can alone be expected to obtain support and countenance from the Medical Profession.—That the great majority of the Profession are capable of securing for themselves, their widows and orphans, a provision against poverty, or an augmentation of the means they may be able to bequeath, through the medium of the contemplated Association. That the best policy is to provide a superannuation fund strictly provident, or even deferred annuities for those who prefer that plan, and also annuities for widows and orphans altogether irrespective of their circumstances, so as to embrace both the rich and the less successful practitioner, whilst a Relief Fund may be properly united and worked in connexion with such an Annuity Society. If it should be alleged that this is a mere Insurance Society, the Sub-Committee would observe, that a Provident Society must needs be so; but this, which they contemplate, being strictly mutual, confined to our own Profession, contemplating contingencies which other ordinary societies do not admit, and in connexion with a fund to be applied at the discretion of the Society to relieve its members under every possible form of difficulty or misfortune, would stand alone, in comprehensiveness and usefulness, and would constitute a bond of union for every branch of the Profession and all its members, not hitherto existing in any Institution.

Dr. Forbes was unanimously voted to the chair, and, in opening the business of the meeting, observed, that none who were acquainted with the Medical Profession would hesitate to opine, that such an Institution, upon whose interests they were then met, was much wanted. During the last forty years he had seen countless instances of distress and privation, which might have been prevented if such an Institution had been provided; and he thought it was but little to the credit of the Profession, that such a scheme had not been before entered upon. He was aware that, to a certain extent, the Profession was not a rich one; but he thought that there was a very small proportion of them who could not afford to put something by for their own good. He then adduced the example of the Governess's Institution, where a body of individuals, with far lower means than those of Medical men, had subscribed for the securing Government Deferred Annuities to the number of 400 or 500 in five years; the sum of money thus passing through the hands of the managers in that period having been 52,000*l*. Now, he would say, that if the poor governesses could, in five years, subscribe to this extent, what might not the members of the Medical Profession do. The fact was, their backwardness in supporting themselves by this means arose from too luxurious habits generally; but he thought they had no business with such luxuries, if, as a consequence, they were ultimately to leave themselves dependent on others in their old age.

Mr. Moore then moved, and Mr. Palmer seconded, the reception of the Report which had been presented, which passed *nem. con.*

Mr. Daniell moved the following resolution:—

"That as every subscriber has been furnished with a copy of the Report of the Committee appointed at the last General Meeting, and invited to express his opinion of the same, and as the Manager had received 70 replies approving, and 2 disapproving thereof, this General Meeting, convened according to the laws relating to such institutions, has the power to deal with the Society and the funds belonging thereto, at its pleasure."

Mr. Daniell entered into an account of the manner and the reasons why he had taken up the subject in the year 1844, having originally proposed it, as a member and in connexion with the Provincial Medical and Surgical Association, to form a Benevolent Fund. He had long had his doubts as to the scheme answering as a general plan; but connected with the Provincial Association, as he had at first contemplated, he had no doubt it would have succeeded. His original plan, however, had been affected by a late Act of Parliament, which prevented the enrolment of a Society partly benevolent and partly co-operative; and under these circumstances he thought it right at once to come to London, and lay the case before a majority of the members, and he now asked for both a Provident and a Benevolent Fund. He had received 76 letters in answer to inquiries, coinciding with his own views, and only two objections, out of about 200 subscribers.

Mr. Palmer seconded the resolution, which was then put and carried.

The third resolution was moved by Mr. Tucker, seconded by Dr. Cooper, and is as follows:—

"That the present meeting deeming the recommendation of the Committee worthy the adoption of the Society, and the plan imbodied in the Report deserving the support of the whole Profession, totally rescinds all the regulations hitherto in force."

Before this resolution was put,

Mr. Ross objected to the principles on which it was proposed to abolish the old Society. As to the Provident Fund for superannuated members, apart from the fund for widows and orphans, he still believed that Mr. Daniell's plan was fully equal to all its purposes. Supposing members to become superannuated at 60, he could prove, that from 45 to 100 years of age, supposing the members of the Profession to join in due proportion, you would get not more than 1 in 3 at 60 years of age. Now, he would ask, how many men, above 60, of frugal habits, have less than 75*l*. a year? Say 1 in 5; and even then you could afford nearly 17*l*. a year on that preposterous calculation. In the Commercial Assurance Society, he found, that for a certain annuity they require only 12*l*. 10*s*.; the proposed Society adopted for the same age 33*l*.; hence it might be argued, that 4 per cent. would become claimants; and he believed, with Mr. Daniell, that 3 per cent. was more than would claim on the fund. He thought, therefore, that a guinea subscription would be sufficient, and could not believe it necessary to graduate that amount. He did not see why the young man should pay 10s., and the old man 5*l*.; and he thought that the principle should be not to tax the old man. He objected to the 'Widows' and Orphans' scheme. In Mutual Society it was well-known that a large fund was a burden. What metropolitan member of limited means would be

prepared to give you ten guineas, when he could obtain the same advantage in the Widows and Orphans' Fund for two? He wished a Society to be established, in which, on payment of a low premium, a member's wife or child should be entitled to an annuity only when they had an income below a certain amount. He preferred a contingent annuity, with a small premium, to meet the exigencies of the less fortunate members of the Profession.

Mr. Headland thought that as the purpose of the present meeting was to form a Provisional Committee, Mr. Ross might make his suggestions to that body when it met.

The following resolutions were then passed:—

"That henceforth the Society shall be designated 'The National Medical Annuity and Relief Fund,' and that every member of the Profession in any of its departments shall be eligible to become a member by subscribing to either of its objects, in conformity with its laws.

"That all the monies in the hands of the Treasurer, Manager, Secretary, or other officer, shall, as soon as convenient, be paid over to the Treasurers appointed by the Provisional Committee.

"That this meeting considers that the exertions of Mr. Daniell, the projector and manager of this Society, are worthy of its highest eulogium—most honourable to himself and beneficial to the Profession, and, therefore, would record its cordial thanks and gratitude to that gentleman.

And also a resolution appointing the Provisional Committee.

The meeting then resolved itself into Committee and some preliminary business was despatched.

WESTMINSTER MEDICAL SOCIETY.

Nov. 17, 1849.

F. Hird, Esq., President, in the Chair.

PHTHISIS IN AN INFANT—RUPTURE OF THE CALCANEO-SCAPHOID LIGAMENT—SPERMATORRHŒA—CHRONIC SKIN DISEASES.

Dr. Rogers exhibited the lungs of an infant, about three or four months old. They were studded with tubercles. The infant had perished from tubercular meningitis. When born it was apparently a healthy boy, but soon exhibited indications of tubercular disease in the brain, with violent spasmodic cough and slight bronchial rhonchus. These were relieved by medicine, and the child improved; but after time it was perceived to be affected with strabismus and there was also a muco-purulent discharge from the conjunctiva. A slight cough was also noticed from time to time. The chest sounded clear on percussion, the respiration natural, with the exception of a slight rhonchus; pulse 120. Leeches and blisters were applied, and small doses of hydrarg. cum cretâ were given for the head affection which continued to increase. Shortly before death the cornea of one eye became dull and ulcerated and the aqueous humour escaped. Convulsions preceded by coma, occurred a few hours before death. The *post mortem* examination showed venous congestion of the right hemisphere, two ounces of serum in the ventricles, and purulent deposit at the base of the brain; the optic thalami and the lining of the ventricles were pulpy and diffluent. The lungs were full of tubercles, and the bronchial glands were enlarged and tubercular. The mesenteric glands were in the same state. His reason for bringing the case before the Society was, the very early age at which such extensive tubercular disease had been developed, the ulceration and rupture of the cornea, and the rapidity with which the disease ran its course.

Mr. Nunn exhibited a drawing of an injured foot; the principal peculiarity being a marked flatness of the sole. A country lad, while carrying a pail, had slipped and injured it; was treated for two months without benefit, then came under Mr. Nunn's care. The arch of the foot had fallen; no fracture could be detected; there was great thickening of the parts, and intense pain on pressure; could not stand on the foot. Continuous frictions, and kneading, (q. shampooing,) succeeded in effecting a cure. After the lapse of a fortnight he could put his foot to the ground, and at the end of a month, he returned to his work. Mr. Nunn considered that the calcaneo-scaphoid ligament had been ruptured, with a partial dislocation of the astragalus downwards. Instead of the fat in which the nerves of the part usually lay, he thought they had been imbedded in a firm deposit of lymph, the result of the consecutive inflammation, so that pressure on the part caused the severe pain complained of. The cure was effected by the shampooing acting upon deep-seated vessels, and exciting them to absorption of the effused lymph. The foot was still flat, and would probably remain so.

Mr. Smith brought before the meeting an instrument, made by Matthews, of Portugal street, for applying solutions of argenti nitras to the urethra in cases of gonorrhœa and spermatorrhœa. It consisted of a common catheter, with a stylet, at the end of which there was a piece of soft sponge about two inches in length, imbedded in a sort of bulb which, when used, was soaked in the solution, the instrument passed, and the stylet projected, so that the sponge came in contact with the diseased part of the urethra. By means of a screw at the end of the stylet, it can be turned gently round, so as to apply it to all sides of the canal. He believed this instrument would supersede Lallemand's porte caustique, (a) to which he thought it preferable. He referred to a bad case of spermatorrhœa, under the care of a friend, a very excellent surgeon, who applied the caustic to the urethra by means of Lallemand's instrument. Troublesome bleeding followed for a week, and was succeeded by a bad stricture. The instrument must be used very gently, or it will give great pain. It was not adapted for use in cases where there was a stricture in the spongy part of the urethra, as in retracting the stylet, the stricture might be caused to bleed, and great mischief done. He used the argenti nitras in solution, from ten to twenty grains to the ounce of water.

Mr. Hunt read a paper, entitled,—

SUGGESTIONS TOWARDS SIMPLIFYING THE DIAGNOSIS AND TREATMENT OF CHRONIC DISEASES OF THE SKIN.

He stated his conviction that the difficulty often experienced in the management of these diseases did not arise so much from their inveterate nature, as from the erroneous views so commonly entertained of their pathology. He undertook to prove, that the pathology of these diseases was not determined by the form of eruption, and that, therefore, treatment founded on this kind of diagnosis must be fallacious. That both the syphilitic and the peculiar constitutional lesion which the author denominated cutaneous cachexia, might alike originate the scaly, pustular, vesicular, and other forms of eruption, so similar to each other respectively, that it was impossible to diagnose them by their appearance alone; that there was manifested in each of these two classes of cases a disorder of the general system, which disorder rather than the eruption itself, should become the subject of diagnosis and treatment; that, consequently, the treatment by local applications was not founded on a right principle; and, though it might repel an eruption for a time, it could not destroy it. This local treatment was, therefore, described as only applicable to eruptions excited by causes from without,—as contagion, heat, cold, friction, dust, dirt, vermin, &c. So far as internal treatment is concerned the author proceeded to speak of the importance of distinguishing syphilitic from non-syphilitic cases which he considered could only be done by learning the history of the preceding symptoms; not by the shade of the eruption, nor by the evidence of primary infection, which was often wanting or obscure. He then proceeded to describe the treatment required from the various incidental circumstances complicating skin disease, which demand prior attention before treating the skin itself; such as pyrexia, anemia, disordered functions of the viscera, organic disease, the alternating or revulsionary forms of cutaneous irritation; &c. &c. And, lastly, he described the treatment he had found successful in those cases of simple skin disease in which the viscera were, to all appearance, sound, and the health unimpaired. This was described as consisting in the administration of arsenic in gradually decreasing doses, and always on a full stomach; the dose being regulated by the condition of the conjunctiva, reducing it when this membrane becomes inflamed to any degree of severity, yet persevering with such doses as will suffice to keep it slightly tender, until the disease is cured. The maximum dose exhibited by Mr. Hunt was five minims of Fowler's solution three times a day. Other medicines were mentioned as useful adjuncts to arsenic, under peculiar circumstances and in peculiar constitutions, such as cathartics and Plummer's pill in plethoric subjects, tonics in asthenic cases, tar in sluggish habits, cod-liver oil in strumous subjects, &c. The greatest caution was advised in the use of arsenic, not only on account of the poisonous properties of the mineral, but also on account of its cumulative action in the system, and the therapeutical difficulties arising from the administration of an over-dose; which often excited such an intolerance of arsenic in the system as to render it ineligible for a long period afterwards. The effects of medicinal doses of arsenic were graphically and minutely described by the author, who portrayed its action in four different degrees; the first being that of a tonic, the second affecting the mucous membranes and skin, the third exciting increased exhalation of the serous membranes, the fourth the well-known poisonous effects. The two first degrees were shown to be consistent with the salutary and therapeutic effects of the mineral, the third injurious and dangerous, the fourth destructive. The therapeutic action of the mineral was stated to reside only in doses too small to be mischievous,—larger doses proving not only injurious to the system, but tending to aggravate the cutaneous disease, which is curable by reduced doses. In the course of his paper, Mr. Hunt took occasion to observe, that there are certain forms of revulsionary cutaneous disease, alternating for a time with other disorders, in which a modification of the hydropathic treatment had been found useful. He condemned the quackery of hydropathists, and especially their books, which he described as gross attempts to mislead the public by abusing all medical science; but yet expressed his opinion, that water, when discreetly used, was an important agent in the treatment of disease, and it was desirable that more attention should be paid by the profession to the various modes of applying it;—treatment not the less important because it had been misrepresented and abused.

Mr. I. B. Brown, after speaking in terms of great commendation of Mr. Hunt's practice in cutaneous diseases, detailed the particulars of a case of psoriasis, occurring in an old gentleman, 66 years of age. The disease had already continued two years in the acute form. There were deep fissures, in addition to the ordinary scales of psoriasis, and great pain on flexing the fingers, or on handling anything. The irritation produced by the disease had led to considerable ill health. He gave five minims of Fowler's solution of arsenic three times a day, each dose to be taken immediately after a meal. Redness of the conjunctiva was speedily produced, and soon afterwards the same condition of the fauces, uvula, and tonsils, followed, with irritative cough. This state was removed by a diminution of the remedy, and, after some persistence in the medication, the disease showed manifest appearance of improvement, and the hands were capable of some degree of flexion. At the end of three months, the hands were quite free from disease, and the general health restored. A slight relapse occurred six months afterwards, but was soon cured by the same remedy. He (Mr. Brown) had found arsenic very beneficial in many cases of skin disease in children, and also in many anomalous eruptions, and he thought the profession were much indebted to Mr. Hunt for drawing their attention to this practical fact.

Mr. Chippendale did not consider the practice of exhibiting the solution of arsenic at meal times as at all novel. Dr. Elliotson used to recommend it in his lectures in 1833, 34. He did not know whether it originated with him.(a) He (Mr. Chippen-

(a) The instrument of Mr. Smith's differs from Lallemand's porte caustique only in having a piece of sponge for the solution of nitrate of silver, while the other has a cavity in the stylet for the solid salt itself. It is not, consequently, an invention, and it may be fairly doubted whether it is even an improvement.—Rep.

(a) The practice of giving arsenic at meal-times is anything but novel. We have ourselves used the plan for upwards of twenty years; and we were acquainted with a surgeon whose practice dates back to 1800, and who always gave it at those times. The reason for doing so is explained in the course of the discussion.—Rep.

dale), had found sarsaparilla very useful in some diseases of the skin, and he thought that a combination of arsenic with sarsaparilla would be serviceable, and more successful than if arsenic were given alone.

Mr. Clarke said, that the mode of giving arsenic recommended by Dr. Elliotson differed greatly from that of Mr. Hunt, inasmuch as the former exhibited the medicine in five minim doses, gradually increased, as long as the patient could bear it; and he thought that no danger could accrue, unless certain results, which he enumerated, were produced, in which case the arsenical medication was suddenly stopped. Now, Mr. Hunt also gave the five minim doses, but he ensured the toleration of the drug by diminishing the dose gradually, and was thus enabled to effect cures when others failed.

Dr. Murphy felt much obliged to Mr. Hunt for pointing out the general principles of the management of skin diseases, and drawing attention to their constitutional origin. He was pleased with the allusion to the hydropathic treatment, which, in some instances, was of service. The eczema of the scalp in infants was better treated by cold water and general attention to the digestive functions, than by any other plan.

Mr. Hird considered an important question arose as to the comparative utility of arsenic alone, or in combination with iodine and mercury. He had found in some cases that Donovan's solution would effect a cure, when arsenic alone had previously failed. He agreed with Mr. Clarke that the mode in which the arsenic was given formed the principal feature in Mr. Hunt's practice. He had used arsenic internally for more than twenty years, but had not paid the same attention to its exhibition that Mr. Hunt had done.

Dr. Garrod inquired the nature of the cachectic condition on which some of the cutaneous affections depended, and what was the *modus operandi* of arsenic in the cure of these diseases?

Dr. Lankester had given up the use of arsenic until he had read Mr. Hunt's work; it had produced such bad effects. He thought the giving arsenic at meal times a most valuable hint; it would enable us to continue its use until the disease was cured. He alluded to the case of a lad, 12 years old, who had an eczematous eruption over the whole body. He gave three drops of arsenical solution three times a day at meal times; the disease was cured in three months. He had also had two or three cases of psoriasis, which were cured in a similar manner: in one instance the disease reappeared, but soon yielded to a resumption of the remedy. In another case, eczema of the ear, various kinds of treatment had been tried without advantage: it was cured in two months by the arseniate of potash.

Dr. Snow was not aware who first recommended that arsenic should be given at meal time, but he had always so exhibited it; and thought it was the rule in the profession. He had used it with advantage in skin diseases and in periodical neuralgia, in the dose of seven minims and a half for a man, and five for a female. He never saw any harm from such doses, and had always found it relieve the neuralgia more quickly than quinine. The long persistence in the medication he considered to be an important point in Mr. Hunt's practice, which he was enabled to secure by keeping to one dose.

Dr. Daniell, of Bath, stated, that when he was physician to the Bath Hospital for Cutaneous Diseases, he had cured cases of lepra and pityriasis by thermal baths, and other external applications, after the functional disorders had been ascertained, and removed by appropriate treatment. Skin diseases could be cured by external medicines. He had used arsenic in small doses, and had always ordered it to be taken on a full stomach. He had seen it fail, and Donovan's solution effect a cure. He had no doubt that some skin diseases depended on an inflammation of the dermis, which should be looked to; in many cases they were caused by functional derangement. Bleeding was of service occasionally, and the blood, when drawn, gave evidence of inflammatory action.

Dr. Sibson considered that Mr. Hunt had developed some original views. His classification of skin diseases was very valuable, in subdividing them them into syphilitic, cachectic, and scrofulous; and his rules for medication were very clear. He had shown us a method by which arsenic and other mineral drugs might be given for a long period of time with benefit. If given for a long while, arsenic may be said to be accumulative in its nature; that is, the effects it caused were accumulative, not the drug itself. This distinction he looked upon as important. The medicines said to be accumulative, did not remain in the system, but the effects they produced continued, and, being constantly added to by other doses, became ultimately very alarming. In exhibiting iron, one of these medicines, it would not do to continue it always at the same doses. In the treatment of children, his plan was to give it for two days, then omit it for two, resume it for two more, and again omit for two; by acting thus, he was enable to administer it for a long time, which he could not do under a continuous plan of treatment. The treatment of squamous diseases by arsenic was very old; five minim doses were the usual mode of giving it, but it was not the custom to lessen the dose, but to stop its exhibition altogether when it was doing harm. This, therefore, was a new plan of treatment. The combination of other medicines with arsenic required consideration; in many cases advantage would be derived from the combined effects of arsenic, iodine, and mercury; he, however, should not like to use a formula, but to be able to vary the relative proportion of the drugs as the case might require. This could not be done with Donovan's preparation.

Dr. Ryan stated, that he recollected that it was the custom, fifteen or sixteen years ago, to give arsenic after meals, and the reason was, to prevent the gastric irritation it would otherwise cause. He had known it cure many cases of hemicrania. It might, in fact, be looked upon as a specific in such cases.

Dr. Routh said, that Dr. Garrod had inquired respecting the influence of arsenic in cutaneous diseases. Some years ago he had instituted a series of experiments to determine the connexion between those complaints and the diseases affecting internal organs. In three or four cases, he had found the kidneys affected, not with actual nephritis or Bright's disease, but there was an actual diminution of the solid matters in the urine, amounting to nearly one half. These experiments were carried on for a week, and were not affected by diet. This ineffective condition of the kidneys was cured by strong diuretics. With reference to the use of arsenic in syphilitic eruptions, which Mr. Hunt opposed, as he did that of mercury in strumous eruptions, in the Parisian hospitals arsenic was given in combination with mercury in some stages of syphilitic skin diseases with great benefit. Much had been said of the danger of large doses; he (Dr. Routh) was not aware of any such danger; he had repeatedly given as much as forty drops of Fowler's solution, three times day. No evil effects had resulted, except, perhaps, a trifling headache. The dose of the iodide of arsenic is reported to be one-twelfth of a grain; he had given it in half-grain doses, with no other ill effect than as in the previous instance. On one occasion, however, he had seen a case which apparently supported Mr. Hunt's opinion. A man, who had been cured by small doses of arsenic, had a bottle of the solution given him, to continue his ordinary dose for a while, as he was going out of town. Anxious to get well rapidly, he increased the dose, and took twenty drops at a time; the consequence was, the disease returned, and has remained incurable ever since. He (Dr. Routh) had given arsenic in between two and three hundred cases.

Mr. Hunt accepted Dr. Routh's explanation of the cause of disease in the cachectic instances of eruptions of the skin. He was himself unaware of this condition of the kidneys in such cases; but thought it very probable, and it should be inquired into. He had referred such diseases to a deficiency in the blood, and it was on that account that he ordered the arsenic to be taken at meals, in order that it might be mixed at once with the circulating fluid, and also to avoid gastric irritation. He had not claimed the originality of that practice, nor did he know who first recommended it. At a meeting of the members of the Provincial Medical Association, when the question was mooted, it was found that two-thirds gave it on a full stomach, and one-third when that viscus was empty. Elliotson's mode of giving arsenic was different to that which he recommended, inasmuch as instead of diminishing the dose, he increased it; and when bad symptoms arose, he gave it up altogether. Those cases only were amenable to sarsaparilla, which had a syphilitic origin, or might be called pseudo-syphilitic. Idiopathic cases of skin disease were not benefited by it. He had not tried iodine in any form in skin diseases. In irritable subjects small doses of arsenic were required; in those who were more obtuse to impressions, larger doses were necessary. The amount of the dose did not depend on the size of the patient, but on his nervous susceptibility. To show the extent to which the arsenical medication may be carried, he stated that in a bad case of lupus, arsenic was given, and at the end of the first year the disease was somewhat lessened; after the second, it was still spreading, but the pain was gone; and at the end of the third, the remedies were left off. Three months passed away, and, the disease returning, the remedy was resumed; the patient took arsenic altogether for about five years. He was now well. He then narrated a case in which a lady, by mistake, took forty drops three times a day; she became very ill in consequence, and could not resume it, even in very small doses, until twenty months had elapsed. A cure was effected with difficulty. That large doses were ever taken with impunity must depend, he thought, on the adulteration of the arsenic. It was often mixed with sulphate of lime, so that the Fowler's solution was rendered of much less strength than it should have. It has been sometimes only one-third its proper strength; but such, he added, is not the case now. Arsenic given medicinally seldom does harm; but that affords no reason why it should be pushed to too large doses, when the disease can be cured by much smaller ones.

CORRESPONDENCE.

MR. ROSS AND THE LANCET.

[To the Editor of the Medical Times.]

Sir,—Will you do me the favour to insert the enclosed copy of a letter forwarded this week to the Editor of the *Lancet*:—

I am, Sir, your most obedient servant,
George Ross.

(Copy.)

To the Editor of the *Lancet*.

Sir,—As you have done me the honour to mention my name in connexion with the proceedings of the "Conference Meeting" held at the Hanover-square Rooms on Tuesday, the 20th November inst., it may be agreeable to you to hear a few particulars respecting the convening of that Conference Meeting, although you may not, probably, deem it expedient to give your readers the benefit of my communication. You may do as you like, however, in this matter, for I may probably enlighten them myself through some other channel less likely to miscarry.

The meeting of the 20th inst. was convened by *public advertisement*, and also by *private circular*. The advertisements appeared *twice* in the *Provincial Medical and Surgical Journal*, *twice* in the *Medical Gazette*, and *twice* in the *Medical Times*. They had, therefore, been before the public, previously to the meeting, for three weeks at the least.

The advertisement was not sent to the *Lancet*, it being considered unnecessary to do so, owing to a very general opinion prevailing that it would be of little use, and that it would hardly be worth the cost of insertion; for the other journals being almost universally read by the Profession, it would look very like throwing the money away.

So much for the advertisement not appearing in the *Lancet*.

Circular letters of invitation were also sent to all the leading medical Reformers who represented public bodies, as well as to many individuals who had interested themselves in the question of Medical Reform.

By these means, and in consideration of the objects for which the Conference was convened, a very nu-

merous and influential meeting was obtained; an

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represented as extreme and irreconcileable, an which, in his truthful and elegant compositions, h has striven to foment and aggravate, were discoverec to be more imaginary than real; and it was provec in the most satisfactory manner that the Medica Profession was far more of one mind, and possessec much more of true gentlemanly feeling and forbearance than could have been supposed to exist, whe so much paper and print had been expended to mak it appear otherwise.

I have the honour to remain, Sir,
Your most obedient humble servant,
GEORGE ROSS.

24, Farringdon-street, City,
November 27, 1849.

THE APPLICATION OF CREASOTE TO BURNS.

[To the Editor of the Medical Times.]

SIR,—Having been a witness of the success attending the application of creasote to burns, firs used by Dr. Stewart in the Queen's Hospital, Birmingham, I submit the following as its *modus operandi*.

The good effects of creasote when applied to a burn are as follow:—

1st. It quickly relieves the pain.

2nd. It excludes the air.

3rdly. The parts to which creosote is applied hav less tendency to slough.

1st. Relief of pain. The *modus operandi* of creasote in relieving the pain, seems to depend on the stimulating properties which the oil possesses; and its action in this respect is best seen in burns of the first division, viz.:—Those producing mere redness. A heated body being applied to a part, excites a greater flow of blood, the vessels become distended, thereby weakened, and congestion is the result. Pain, as in congestion from other causes, takes place as necessary consequence, partly owing to distension of the vessels, partly to the pressure thereby produced on the small nervous filaments The creasote, by stimulating the vessels to contraction, relieves the distension, thereby the pain. Also, the oil applied to the tongue or any sensitive organ, produces a burning pain; in short, acts as a stimulant by exciting a greater afflux of blood to the part, and thus, in a burned portion, the blood before stagnated is carried forward by the force.

2nd. It excludes the air, and it does this in two two ways. 1st. By hardening the cuticle. 2nd. By its power of coagulating albumen.

This effect is best seen in burns of the second class —those producing vesication. A blister being formed, and the cuticle raised from the cutis sera, creasote is applied, which, by drying on it, renders the detached portion hard and horny; therefore better calculated to withstand external impressions.

The serum which is found beneath the cuticle contains a large proportion of albumen. The albumen is coagulated by the creasote, and a tenacious viscid layer is formed on the surface of the cutis sera, highly impervious to the transmission of the oxygen of the air.

3rd. The parts to which creasote is applied have less tendency to slough.

And this occurs partly from the congestion being quickly relieved before the parts have become inevitably diseased, partly from the non-admission of the air, and partly may be attributed to the antiseptic power which creasote is well known to possess.

I am, Sir, your obedient servant,
W. J. MOORE, M.R.C.S., Resident Officer.
Queen's Hospital, Birmingham, Nov. 24, 1849

HEALTH OF LONDON DURING THE WEEK ENDING NOV. 24.

The total deaths registered up to Saturday last numbered 892 in the metropolitan districts, being under the weekly average of five previous autumns by 270, 129 of this number being the "less" of deaths occurring under the head Zymotic Diseases than the average. It is gratifying to find that from the week ending October 13, the deaths have decreased on the average of five years, and in a period of seven weeks, by no less a number than 1629, though our gratification at such a result, while it evidences the abatement of cholera, must be somewhat qualified when we reflect, that such a diminution of deaths must be attributed in some measure to the fact of the cholera having smitten those who would, in all human probability, have been the victims of those diseases which appear to have so sensibly declined. In the period of six weeks, from Oct. 20 to Nov. 24, Zymotic Diseases have been under the average by 524, being nearly a third of the total decrease under all causes. From Typhus, in the last week there were only 34 deaths, a smaller number than has been recorded for a long period. The mortality from Small Pox, however, which has recently been low, suddenly rose from 6 deaths in the previous week to 17 in the last. The deaths from Diarrhœa are now 7 below the average; and only 2 deaths from cholera are registered,—1 in Charing-cross Hospital, from St. Martin-in-the-Fields, and 1 in Blandford Mews, Marylebone.

The mean temperature of the air was below the average of 7 years, during the last 5 days, except on Friday, when it was higher by 1·0; the result for the whole week is a minus on 7 years' average of 0·2. The reading of the barometer at the beginning of the week was 30·18; it decreased to 29·88 in. by the 19th at 9h. a.m.; increased to 30·02 in. by the 20th at 9h. a.m.; decreased to 29·21 in. by 3h. p.m. on the 24th, after which the reading increased slightly till the end of the week. The prevailing wind was N.E.

The Registrar-General has annexed to the Week's Return, Tables of 18,166 deaths from Cholera and Diarrhœa in London, distinguishing sex, and giving the various ages at which they have occurred, with the annual rate of mortality derived from the deaths and population at each age. From this it appears, that the mortality from these causes was uniformly greater among males than females up to the age of 30 or 35; that between 35 and 45 years, females suffered more; that in the decennial period following, the rate of mortality was nearly equal to both sexes; and that up to 85 it was greater among women, at which age the proportion turns in their favour. From 25 years, the rate of mortality constantly increased up to extreme age, though diarrhœa was generally the form which the epidemic assumed in the case of octogenarians.

MORTALITY TABLE,

(Metropolis.)

For the Week ending Saturday, Nov. 17, 1849.

CAUSES OF DEATH.	Total	Average of Five Autumns.
ALL CAUSES	892	1162
SPECIFIED CAUSES		1158
Zymotic (or Epidemic, Endemic, and Contagious) Diseases	178	307
SPORADIC DISEASES:		
Dropsy, Cancer and other Diseases of uncertain or variable seat		49
Tubercular Diseases		
Diseases of the brain, Spinal Marrow, Nerves, and Senses		125
Diseases of the Heart and Blood vessels		
Diseases of the Lungs, and of the other Organs of Respiration		
Diseases of the Stomach, Liver, and other Organs of Digestion		65
Diseases of the Kidneys, &c ...		11
Childbirth, Diseases of the Uterus, &c.		
Rheumatism, Diseases of the Bones, Joints &c		
Diseases of the Skin, Cellular Tissue, &c.	1	1
Malformations	3	4
Premature Birth and Debility	13	23
Atrophy	26	18
Age	35	57
Sudden	13	12
Violence, Privation, Cold, and Intemperance	11	36
Causes not Specified	20	[illegible]

The following is the number of Deaths occurring from some of the more important special causes:—

Apoplexy	16	Heart	37	Phthisis	101
Bronchitis ...		Hooping cough	12	Pneumonia ...	82
Cholera.........		Hydrocephalus	27	Scarlatina	35
Childbirth		Influenza	4	Small-pox	17
Convulsions...		Liver	8	Stomach	7
Diarrhœa		Lungs	8	Teething	11
Dropsy		Measles	30	Typhus	34
Erysipelas ...		Paralysis	21	Uterus	1

BIRTHS AND DEATHS.

	Births.	Deaths.	Births over Deaths.
Males	778	425	353
Females	679	467	212
Total......	1457	892	565

METEOROLOGY OF THE WEEK.

Day.	Mean of Barometer.	Mean of Thermometer. Dry.	Ditto. Dew Point.	Difference between the Mean Temperature of the day and the same day on an average of 7 years.	General Direction of Wind. A.M.	General Direction of Wind. P.M.	Amount of Horizontal Movement of the Air. Miles.	Rain in Inches.	Electricity.*
Sunday	29 992	47 0	43 3	+ 3 5	S.W.	W.S.W.	145	0·03	No electricity was shown till Nov. 24, at noon; during the afternoon, however, of Saturday, the electricity was positive, with variable tension, at most times very weak.
Monday	29 923	47 6	43·2	+ 4 1	W.S.W. & N.	N.	10	0·00	
Tuesday. ...	30·007	41·9	39 3	— 1·5	N. & N.E	E.N.E	40	0·00	
Wednesday.	29·945	42·8	38 2	— 0·6	E.N.E	E.	70	0·00	
Thursday ...	29 728	38 3	33·3	— 5·1	E.	E. & S.E.	75	0·00	
Friday	29·443	44 5	44 6	+ 1 0	S.E.	S.	125	0·17	
Saturday ...	29 232	40·8	36·1	— 2 7	S.	N.N.E.	35	0·17	
Means ...	29·753	43 3	39·6	— 0·2	N.E.		SUM 500	SUM 0·37	

* In this Column, A. stands for Active; N. for Negative; and P. for Positive.

MEDICAL NEWS.

ROYAL COLLEGE OF SURGEONS.—The following gentlemen, having undergone the necessary examinations for the Diploma, were admitted members of the College at the meeting of the Court of Examiners, on the 23rd instant:—Messrs. Samuel Whitlaw, Lower Whitley, Cheshire; James Newham, Lynn Regis, Norfolk; Henry Parker, Sheffield; William Robert Stewart, Hackney; Henry Hervé Woolhouse, Army; Franklin George Evans, Cardiff, Glamorganshire; and John Weekes, Tavistock, Devon. At the same meeting of the Court Mr. Henry Loney passed his examination for Naval Surgeon. This gentleman had previously been admitted a member of the College, his Diploma bearing date May 29, 846.

APOTHECARIES' HALL.—Names of Gentlemen who passed their examination in the Science and Practice of Medicine, and received Certificates to practise, on Thursday, 22nd Nov., 1849:—William Spence Brown, Strood, Kent; James Mozley Stark, Gainsborough; Fortescue John Morgan, Henley-on-Thames; James Rigby, Stockport, Cheshire; James William Henry Veitch, Portsmouth.

THE FELLOWSHIP.—In consequence of the new regulations coming into operation early in the ensuing year, making it compulsory on all the junior candidates for the Fellowship of the Royal College of Surgeons, to undergo examinations in the classics and mathematics, upwards of thirty gentlemen, principally junior members of the College, have entered their names for the necessary examinations, which will take place at the College on Tuesday and Thursday next.

BENEFICENCE.—The late Mr. Lewis Morris Cuthbert, of Lyon-terrace, Maida-hill, has bequeathed 100l. to the Hospital in connexion with University College, the funds of which Institution have also been enriched by a further legacy of 100l., free of duty, from the late Mr. Wilkins, of Mackworth, Derbyshire.

OBITUARY.—On the 22nd instant, at Sydenham Kent, in the 71st year of his age, William Roberts Esq., surgeon, late of the 1st. Royals.—On the 25th at Weymouth, Dr. Carden, late Physician to the Bath General and United Hospitals.—Lately, at Runcorn Mr. Thomas Case, surgeon.

KING'S COLLEGE HOSPITAL.—At a Quarterly Court of the Governors of this Hospital, held on Wednesday last, it was stated, that the funds for the last quarter had proved deficient by nearly 600*l.* owing to the expenses incurred by the immediate admission and treatment of cholera and diarrhœa patients during the recent visitation. The Earl of Carlisle having been elected Vice-President of the Hospital, the resignation of the Duke of Sutherland from the office of President, on account of illness was received, the resolution expressing the regret of the meeting, and also its gratitude for the liberality and support evinced by His Grace towards the Hospital. Thanks having been voted to Lord Radstock (the Chairman) the proceedings terminated.

ROYAL DISPENSARY FOR DISEASES OF THE EAR, DEAN-STREET, SOHO-SQUARE.—The Quarterly Meeting of this Institution, founded for the relief of indigent persons labouring under Deafness and other Diseases of the Ear, was held on Wednesday last at the Dispensary. Dr. Richards in the chair. The Secretary read the amount of subscriptions, from which it appeared, that the Charity had been aided by the contributions of Her Majesty the Queen Dowager, His Majesty the King of the Belgians, Ladies Tilney Long, Atkinson, and Trundle; the Rev. R. A. Scott, the Lord Mayor, Captain, Jones, &c. The Committee solicited the aid of the affluent for this useful Charity, which was dependent upon the voluntary subscriptions of the benevolent. The Dispensary had afforded relief to an increased number of applicants, during the last quarter. The statistical account, Mr. Harvey stated to the meeting of the new admissions from July to September, is 250; cured 59. The Committee, therefore, solicit the contributions of the benevolent and charitable to enable them to meet the expenses of the Charity, and to permit of its more extensive usefulness. A vote of thanks was passed to Mr. Harvey, the surgeon, and to the Chairman, and the meeting separated.

SOCIETY FOR THE ABOLITION OF BURIALS IN TOWNS.—On Wednesday, a meeting of this Society was held at its rooms, Bridge-street, Blackfriars. The Chairman presented a scheme for extramural burial, as regards the metropolis, which was read by the Secretary. The measures recommended in this document were as follows:—"1. That a general system of extramural sepulture shall be forthwith organized throughout Great Britain. 2. That medical men be appointed to fill the ancient office of 'searcher,' and that no body be removed for interment without a certificate of death. 3. That the interment of the dead, during the summer months, within a period of —— days, be compulsory. 4. That for London, common land in the neighbourhood of railways should be appropriated for general cemeterial purposes, branch lines conveying the funeral trains into the ground itself, as proposed by Mr. Walker to the Select Committee on Interment in Towns in 1842. 5. That a central administration be appointed to undertake every service (except religious) connected with the burial of the dead at fixed and specific charges, which latter should not exceed certain maxima laid down therein. 6. That the duty of providing for the interment of the dead be exclusively confined to the aforesaid administration." The report was unanimously adopted, and the meeting directed that it should be printed and circulated.

RE-MODELLING OF THE METROPOLITAN SEWERS.—We understand that the Metropolitan Commissioners of Sewers have made their selection of a gentleman to fill the important post of Chief Engineer of the Commission, to whose invention and direction the entire re-modelling of our sewers and drains is to be committed. We forbear to say much about this gentleman, (Mr. Foster,) as the proposed appointment has not yet been confirmed; but we may state, that he is an engineer of first-rate talents, and has assisted in the construction of the great tubular bridge over the Menai Straits.

CARLISLE.—An investigation into the sanitary condition of Carlisle has been made by W. Rawlinson, C.E., the inspector appointed by the Board of Health. Evidence was given on the following points:—"The sewerage, drainage, and supply of water; the state of the burial-grounds; the number and sanitary condition of the inhabitants; the local Acts, of Parliament, if any, for paving, lighting, cleansing, watching, regulating, supplying with water, or improving, or having relation to the purposes of the said Acts; the natural drainage areas; the existing municipal, parochial, or other local boundaries, the boundaries which may be most advantageously adopted for the purposes of the said Act, and other matters. Mr. Steel, the chairman of the Corporation Committee, reported, that with respect to drainage and sewerage, Carlisle was very defective. Most of the drains are V shaped; others have flat bottoms—they have not been laid out upon any uniform system. They empty themselves into the Eden (the river that supplies Carlisle with water.) Those from the Aglionby lands terminated in the Petteril, which flows into the Eden. The majority are proprietary drains. For the last two years the Corporation have required that private drains should be made of six-inch glazed pipes, with socket joints for water-closets. The drainage work is superintended by the Corporation Inspector of Buildings. The sewers are only occasionally trapped for the private houses; in the streets there are only open gully holes. Among other evidence, the collection of midden-heaps was spoken of as a nuisance very injurious to health." In commenting on this statement Mr. Rawlinson observed, that it is highly important to take as large a view as possible of the effect such refuse may have upon the health of the people, because we are often led away to false conclusions. In the course of his inquiries in the several towns he had visited, he had seen very scanty privy accommodation, and other disgusting sights; but the worst cause of disease had been found to be large masses of filth accumulated in the shape of middens. The cholera raged fiercely in Alnwick, where in three weeks a year's population was swept off. It was curious to trace how closely the disease obeyed the law of settling itself where middens had been allowed to accumulate. It took the highest and most cleanly looking part of a particular district, and not the dirtiest part of the town.

TORQUAY.—Mr. Rummell, an inspector of health, has been examining Torquay lately, with the view of bringing it under the operations of the Board of Health. His investigations have shown the necessity of the inquiry.

CHOLERA AT PAULTON, SOMERSET.—The disease is at present making great ravages amongst the poor of the parish of Paulton, a locality containing about 2,000 inhabitants. The deaths up to Thursday, the 22nd of November, have been 33; there were four more deaths took place that day, and at present there are no signs of the pestilence abating. Paulton is situated about eight miles from Bristol.

TESTIMONIAL.—An elegant time-piece was recently presented to Mr. Kirkpatrick, surgeon, of Scolby Grange, by his friends and patients, as an acknowledgment of their gratitude and esteem for his professional and private character, and for the kindness and attention shown by him to the poor, for the last thirty years, and especially during the late epidemic. Dr. Allison, of Bridlington, presided at the meeting, and eulogised Mr. Kirkpatrick in a long and effective speech. Mr. K. responded briefly, but to the purpose.

MR. SANDS COX AND THE MIDLAND COUNTIES RAILWAY DIRECTORY.—It will be in the recollection of our readers, that Mr. Sands Cox some time ago brought an action against the Directors of the Midland Counties Railway, for his charge for amputating the leg of a poor man, and for two subsequent visits, rendered by the express order, in writing, of the Superintendent at Birmingham. It appeared that the poor man, Higgins, had had his leg crushed by a railway carriage having passed over it, and Mr. Cox, as we have stated, was sent to attend him by one of the principal servants of the Company. Higgins brought an action against the Company, which was compromised by the payment of a sum of money, and this, coupled with the fact that the superintendent was not authorised to call in surgical assistance on such occasions, and had acted on his own responsibility in this case, and not by the authority of the directors, caused a verdict to be given for the defendants, the judge and jury expressing a strong opinion in Mr. Cox's favour on the merits of the case. Mr. Cox avers, that in the agreement between the company and Higgins, it was stipulated that the former were to pay his (Mr. C.'s) charges, provided they were reasonable, but that this was purposely omitted in the memorandum endorsed on the brief, because the gentleman who held Higgins' brief did not consider him in any way liable. A considerable length of time elapsed; Mr. Cox paid his own legal expenses, and believed, as did his friends, that in consideration of the heavy loss he had already sustained, and equity, but not law, being on his favour, he would hear no more on the subject. It seems, however, that towards the end of last month, he received a notice from the Secretary of the Railway Company to pay their law expenses likewise. On the receipt of this, he wrote a spirited and manly letter to the secretary, pointing out the injustice of the case, and expressing his belief that, on a due knowledge of the facts, they would cease to urge his payment of the costs on their side. He concludes his letter thus:—"I wish it clearly to be understood, that I do not make an appeal *ad misericordiam*, my condition in life does not require that I should incur that degradation. I have forborne to pay your costs up to the present time, solely because I cannot bring myself to believe that you demand them, with a full understanding of the injustice of the claim, and because, many persons with whom I have conversed on the subject, have expressed a similar opinion. If you will only satisfy me by a line under the hand of your secretary, that you are in full possession of the facts and merits of the case, and that, with that knowledge, you require me to sustain a further loss, I will bring the matter to a close, by at once paying your demand." It is said, that at the meeting of the board, peremptory instructions were given to enforce payment of costs without delay; and that they have since been paid by Mr. Cox. If this be, indeed, true, we can only say, with the editor of the *Birmingham Journal*, who has just published Mr. Cox's letter with comments, that men in their corporate capacity will commit acts, which individually they would be ashamed of!

TO CORRESPONDENTS.

Mr. Quain's valuable Clinical Lecture "On some of the diseases of the Testis," is unavoidably delayed, in consequence of some imperfections in the illustrative wood engravings.

We regret to be obliged to solicit the kind forbearance of several correspondents, whose valuable communications, however, are in type. Our desire to comply with the wishes of many of our readers, and to complete Mr. Wardropp's work on the heart with as little delay as possible, is the reason for withholding, until next week, several letters, to which, otherwise, we would gladly have given a place in our present Number.

Our French correspondence arrived from Paris at too late an hour for insertion.

"L. M." writes:—"A patient labouring under erysipelas commencing at the foot and extending to the abdomen, with ulceration over the sacrum, is attended by a surgeon; can he recover his charges, which are disputed upon the ground that it is not a surgical case?"

[We refer our Correspondent to the opinions of our readers. We fear that, unless he is a Licentiate of the Apothecaries' Company, he cannot *in law* recover.]

'Juvenis" writes.—"Will you be so kind as name, in your next Number, the best work on Materia Medica for a young pupil. Also give Erasmus Wilson a hint that his Delineations of Cutaneous Diseases are in arrear."

There is no good work in the English language on Materia Medica for a young pupil. We shall be very glad to see the want supplied.]

"Mr. William Marshall's" communication has been received.

"A Respected Correspondent," who was "the intimate friend of the Siamese Twins when they were exhibited at the Egyptian Hall, in 1829," offers us "portraits and memoirs of these most amiable and interesting men." We fear we must, on behalf of our readers, decline the obliging proposal.

Our Friend who writes in pencil will observe that we have followed his directions. We are obliged by his commendation of our humble endeavours.

'Mr. Utermarch" has our thanks.'

"L. L."—We cannot conceive it to be lawful for any man, even though he be a medical man, "to hook his horse to a house-door, and thus obstruct the foot-path while he is visiting his patient within." Concerning the proposed advertisement, he must exercise his own judgment. *Both* will be best.

We are obliged by Mr. Cantrell's attention.

Mr. Mosgrove's (of the Bombay Army) valuable remarks on the predisposing causes and treatment of the Asiatic Cholera we shall speedily lay before our readers. Mr. Mosgrove is now in charge of an infirmary opened by public subscription, and we have pleasure in announcing his promise of favouring us with periodical reports. Indian practice cannot but be acceptable to our readers.

We have received Mr. Harvey's communication "On the artificial Tympanum," which we shall have much pleasure in inserting in our next Number.

Mr. Wiblin, of Southampton, is assured that his surgical essays will meet with our earliest possible attention.

Mr. Miller's" Cholera Return is acknowledged with thanks.

Mr. Davis" is thanked for his communication, which shall receive our most serious consideration. We do not insert his letter in our columns, because we do not know if it is intended for ourselves or for the public; but we will willingly publish any remarks upon the subject with which Mr. Davis will favour us.

"H. A." shall receive early attention. He must, however, remember that the "Medical Times" of the present day, and the "Medical Times" of past days, are not *alter et idem.*

Sarsus."—We shall insert Sarsus' letter next week.

We have received Mr. Hare's new edition of his work on spinal diseases, which will be reviewed as speedily as possible.

Mr. Maclure's" request will be attended to.

ORIGINAL LECTURES.

LECTURES ON THE CHEMISTRY OF THE POISONS; OR, ON PRACTICAL TOXICOLOGY.

SHOWING THE APPLICATIONS OF CHEMISTRY TO THE DISCOVERY OF CRIME.

By H. LETHEBY, M.B., Lond:
Lecturer on Chemistry at the Medical College of the London Hospital.

LECTURE X.

Nitric acid.—Composition of the pure acid —Of the commercial varieties,—the Monohydrated, Sesquihydrated, Binhydrated, Tetrahydrated Acids, &c.—Physical properties of nitric acid its specific gravity.—Table of specific gravities.—Table of boiling points —Table of congealing points.—Chemical properties of the acid affinity of the acid for water —Table of condensation.—Action of nitric acid on litmus paper action of the acid on metals, as copper, silver, mercury, bismuth, tin, zinc, iron, arsenic, and antimony.—*Rationale* of its action, according to Millon: action of the acid on metalloids, as phosphorus, carbon, sulphur, &c.

NITRIC ACID:

Called also azotic acid, fuming spirits of nitre, Glauber's spirit of nitre, aqua-fortis, and solutive water. This liquid, to quote from Mr. Taylor, seems to have been first used as a poison about the middle of the fifteenth century, but although it is much more used in the arts than oil of vitriol, yet cases of poisoning by it are by no means so common. Tartra was only able to collect fifty-six cases, extending over a period of nearly four hundred years; and it appears, from the return of inquisitions for 1837 and 1838, there were only two instances reported to have occurred in England during those two years. "I have," says Mr. Taylor, "only met with one instance, where it was poured down the throat of a child for the purpose of murder."

COMPOSITION OF THE SEVERAL VARIETIES OF AQUA-FORTIS.

1. *Pure or Anhydrous Nitric Acid* is generally regarded as a compound of one equivalent of nitrogen equal to 14 parts, and five equivalents of oxygen equal to 40 parts · the combining proportion of the acid is, therefore, 54, and its formula is NO^5.

But, until very recently, such an acid had never been isolated; for, on attempting to separate it from the water with which it is combined in aqua-fortis, or from the bases with which it is united in its saline combinations, the anhydrous acid instantly resolved itself into oxygen and nitrous acid; in consequence of which all chemists were agreed in regarding the dry acid as a hypothetical body. This fact has even been made use of by Liebig and his followers, in order to illustrate their peculiar views with regard to the constitution of acids generally; and Schonbein has taken advantage of it in his attempts to show that liquid nitric acid is a compound of nitrous acid and ozone, or peroxide of hydrogen. Very recently, however, M. Deville, of Besançon, has presented to the Parisian Academy of Sciences, through the agency of M. Dumas, a specimen of pure anhydrous nitric acid, in the form of large brilliant colourless crystals. These crystals were obtained by passing pure dry chlorine gas over nitrate of silver—the salt being first heated to a temperature of 200° Fahr., and then, directly after decomposition had commenced, the heat was lowered to about 140° or 150° of Fahr. At this temperature pure nitric acid continued slowly to distil over, and it was easily condensed and obtained in the crystalline form, by collecting the acid in a receiver kept cool by means of ice. The crystals thus procured were large colourless six-sided prisms; they melted at a temperature of 85° Fahr., and the resulting liquid boiled at about 118° Fahr. In distilling the acid, however, it always underwent a partial decomposition, being resolved into nitrous acid and oxygen. The crystals of the acid are said to be very soluble in water, and during their solution they produce a great elevation of temperature. According to Dumas, the crystallised acid is not a permanent compound; for the specimen furnished to him by Deville underwent spontaneous liquifaction, and, on attempting to recongeal the liquid, it was suddenly resolved into oxygen and hyponitrous acid, a change which took place with explosive violence.

2. *Commercial or Hydrated Nitric Acid.*—The nitric acid, which we are accustomed to meet with in commerce, is a liquid of very variable strength; for it consists of the preceding pure acid in combination with various proportions of water; chemists, however, are not yet agreed as to the nature of these combinations; nevertheless we may, I think, conclude, from the facts already presented to us, that there are at least two definite compounds of nitric acid and water, namely, a protohydrate and a tetrahydrate; and it is more than probable that there are other combinations of a like nature, although the evidence concerning the latter point is not so clear or satisfactory.

(a) *Monohydrated Nitric Acid* has been frequently referred to by chemists; but I am not at all certain that the compound in question has been as frequently obtained. Mr. Smith, however, of University College, has lately made a re-examination of this subject. He has carefully prepared the pure monohydrated acid, and his chemical report thereon has cleared away many of the discrepancies which have hitherto clouded our inquiries into this matter.

This Author states, that when the strongest commercial acid, having a density of 1500, is distilled with half its bulk of oil of vitriol, then decolorized, re-distilled at a low temperature, (from 190° to 200°,) again decolorized, and so on for three or four times successively, we may obtain an acid which cannot be further concentrated. It presents itself as a colourless liquid, having a density of 1517; it contains 85 71 per cent. of dry acid; from which it is evident that it is composed of one equivalent of nitric acid equal to 54, and one of water equal to 9. Its equivalent, therefore, is 63, and its formula is $NO^5 + HO$.

(b) *Sesqui-hydrate of Nitric Acid.*—This acid, according to Mr. Richard Phillips, is obtained when aqua-fortis is manufactured, after the manner recommended by the London College; that is, according to the directions given in the London Pharmacopœia. He states, that the specific gravity of this acid is 1503·3 or 1504; that it contains 80 per cent. of real acid; and that its formula is $2\ NO^5 + 3\ HO$. It is not, however, a stable compound, for it is resolved by heat into the proto and tetrahydrates

(c) *Binhydrate of Nitric Acid* is a compound which is often referred to by chemists; Mr. Graham, for example, says, that a second acid appears to exist, having a density of about 1480, which has little or no action upon tin, iron, and some other metals. Millon, also, in his monograph upon nitric acid, states, that there is a hydrate with this composition, but that it is only obtained to any extent by operating upon a large quantity of very concentrated acid. Seventeen pints of the strongest aqua-fortis only afforded about one pint of this acid. It appears, however, from the investigations made by Mr. Smith, that this so-called binhydrate has no real existence; for, on heating a liquid of sp. gr. 1496, which contains 75 per cent. of real acid—a proportion equal to that of the hydrate in question —it was resolved into two compounds, namely, into the proto and tetra hydrates just mentioned.

(d) *The Tetrahydrate of Nitric Acid* has been recognised as a distinct compound ever since the time of Dalton, whose inquiries served to establish the truth of this principle, namely, that very strong nitric acid became weaker by boiling, and that the weaker acids gradually became stronger during their distillation; so that, in fact, the ordinary varieties of nitric acid are all resolved by heat into one compound, viz., the tetrahydrate; the specific gravity of which, according to Mr. Smith, is 1424, it contains 60 per cent. of real acid, and its formula is $NO^5 + 4\ HO$.

(e) *Another Hydrate* has been mentioned by Millon, who states, that when the last-named compound is undergoing the process of distillation, a moment arrives when there is a sudden disengagement of nitrous fumes, when the thermometer, which had previously risen to 266° or even 273° Fahr. falls 14 or 18 degrees, and when the residual liquor, containing 57 per cent. of nitric acid, has a density of 1405. This acid, according to Millon, is a distinct hydrate, and its formula is $2\ NO^5 + 9\ HO$.

PHYSICAL PROPERTIES OF LIQUID NITRIC ACID.

Pure nitric acid is a colourless fuming liquid. The acid of commerce, however, is generally more or less coloured, and the tint may vary from a pale yellow up to a deep orange red, according to the proportion of nitrous acid present in the liquor. Occasionally, too, it has a green, or even a deep blue tint, in consequence of its containing hyponitrous acid, —an impurity which, together with the preceding, I shall consider more fully hereafter.

The Specific Gravity of aqua-fortis varies according to its strength; that known in commerce by the name of double aqua-fortis has a specific gravity of from 1500 to 1360, while that in ordinary use, called single aqua-fortis, has a density somewhere about 1220. Again: there is much difference of opinion with regard to the density of the strongest fuming nitric acid. The Edinburgh College fixes its specific gravity at 1500; and Dr. Ure states, that this was the density of the acid which he obtained when he slowly distilled it from regular prisms of nitre, which were acted upon by concentrated oil of vitriol. Mr. Phillips, however, and the London College, have fixed the strength of the acid at 1504. Gay Lussac obtained an acid which had a density of 1510, and Thenard's acid had a specific gravity of 1513. The acid which you see here, and which I procured by two successive distillations from concentrated oil of vitriol, has a density of 1511; Pelouze, however, and Proust and Millon state, that their acids, obtained in the same way, had a specific gravity of 1520, while Mitscherlich's acid had a density of 1521, and Smith's of 1522. Hope has stated, that when we decompose perfectly dry nitre, by means of recently boiled sulphuric acid, we may obtain an acid which has a density of 1540. I can confirm the statement, for here is an acid obtained in the manner described, and, as you will perceive, it has a specific gravity of 1543. Davis's strongest aqua-fortis had a density of 1550; Kirwan's that of 1554·3, and Rouelle is said to have procured an acid whose specific gravity was as high as 1583.

Many of the discrepancies here referred to, have doubtless arisen out of the circumstance, that the acids described were not pure, but were contaminated with various proportions of nitrous acid, hyponitrous acid, and perhaps sulphuric acid, or even saline matters, all of which impurities would tend to give a false value to the strength of the acid: it appears, in fact, from the experiments so recently made by Mr. Smith, that an acid having a density of 1522 is lowered to that of 1503, when it is deprived of the nitrous acid ordinarily contained in it; and Mr. Richard Phillips has shown, that when an acid of specific gravity of 1497 is saturated with binoxide of nitrogen, that is, with nitrous and hyponitrous acids, its density rises to 1541.

Again: the same cause of error has operated in giving a false value to the saturating powers of such impure acids; for it appears from the investigations of Kirwan, Davy, Wollaston, Phillips, Dalton, and Ure, that an acid of specific gravity 1500, may, if tested, by its saturating power alone, exhibit a strength of from 68 to 91 per cent. of real acid. Some of those discrepancies have, however, been removed by the inquiries of Dr. Ure, who has drawn up the following Table, in the hope of exhibiting the relative strengths of nitric acid of different densities, and I may remark, that, although this Table does not correctly represent the composition of these acids, yet it is sufficiently near to the truth for all ordinary purposes; and that it accords

pretty well with the results obtained by Dr Thompson and others:—

TABLE exhibiting the SPECIFIC GRAVITIES and PERCENTAGE STRENGTHS of various Solutions of NITRIC ACID in WATER.

Sp. Gr.	Per Cent. Dry Acid.	Sp. Gr.	Per Cent. Dry Acid.	Sp. Gr.	Per Cent. Dry Acid.	Sp. Gr.	Per Cent. Dry Acid.
1500·0	79·700	1418·9	59·775	1294·7	39·850	1140·3	19·925
1498·0	78·903	1414·7	58·978	1288·7	39·053	1134·5	19·128
1496·0	78·106	1410·7	58·181	1282·6	38·256	1128·6	18·331
1494·0	77·309	1406·5	57·384	1276·5	37·459	1122·7	17·534
1491·0	76·512	1402·3	56·587	1270·5	36·662	1116·8	16·737
1488·0	75·715	1397·8	55·790	1264·4	35·865	1110·9	15·940
1485·0	74·918	1394·5	54·993	1258·3	35·068	1105·1	15·143
1412·0	74·121	1388·2	54·196	1252·3	34·271	1099·3	14·346
1479·0	73·324	1383·3	53·399	1246·2	33·474	1093·5	13·549
1476·0	72·527	1378·3	52·602	1240·2	32·677	1087·8	12·752
1473·0	71·730	1373·2	51·805	1234·1	31·880	1082·1	11·955
1470·0	70·933	1368·1	51·008	1227·7	31·083	1076·4	11·158
1467·0	70·136	1363·0	50·211	1221·2	30·286	1070·8	10·361
1464·0	69·339	1357·9	49·414	1214·8	29·489	1065·1	9·564
1460·0	68·542	1352·9	48·617	1208·4	28·692	1059·5	8·767
1457·0	67·745	1347·7	47·820	1201·9	27·895	1054·0	7·970
1453·0	66·948	1342·7	47·023	1195·6	27·098	1048·5	7·173
1450·0	66·155	1337·6	46·226	1189·5	26·301	1043·0	6·376
1446·0	65·354	1332·3	45·429	1183·3	25·504	1037·5	5·579
1442·4	64·557	1327·0	44·632	1177·0	24·707	1032·0	4·782
1438·5	63·760	1321·6	43·835	1170·9	23·900	1026·7	3·985
1434·6	62·963	1316·3	43·038	1164·8	23·113	1021·2	3·188
1430·6	62·166	1311·0	42·241	1158·7	22·316	1015·9	2·391
1426·9	61·369	1305·6	41·444	1152·6	21·519	1010·6	1·594
1422·8	60·572	1300·1	40·647	1146·5	20·722	1006·5	0·797

Boiling point of the Acid.—Notwithstanding that this part of our inquiry does not possess much interest in a medico-legal point of view, yet it is necessary for me to refer to it, in order that I may complete my account of the properties of this liquid. According to Mr. Dalton, the following represents the boiling points of acids of different densities:—

Acid of sp. gr. 1500 boils at 210° Fahr.
" 1450 " 240° "
" 1420 " 248° "
" 1400 " 247° "
" 1350 " 242° "
" 1300 " 236° "
" 1200 " 226° "
" 1150 " 219° "

From which it will be manifest that both the strong acids and the weak acids boil at comparatively low temperatures; and that the boiling points gradually rise until the liquid acquires a density of 1420; when, in fact, it becomes the tetrahydrate, and contains 60 per cent. of real acid. Millon states, that all the acids having a density above 1500, begin to boil at the temperature of 187° of Fahr., and that the boiling point gradually rises until it arrives at about 253° Fahr., where it remains constant for some time. Towards the end of the distillation, however, this observer found that the thermometer rose to 266° Fahr., or even occasionally to 273°; and he remarked, that during the progressive ascent of the mercury it stood for a short time at the following points, namely, at 194°, 222°, and 232°. It appears, moreover, from Millon's investigations, that the quantity of the liquid, its density, the presence of points in the retort, the mode in which the heat is applied, and several other circumstances, affect the boiling point of this acid. When experimenting on the pure acid, Mr. Smith found that those solutions which had a density of 1500 began to boil at about 190° Fahr., and that during their distillation the thermometer gradually rose to 250°. On instituting some inquiries into the boiling points of the two well-known hydrates, viz., the mono and tetra hydrates of nitric acid, he noticed that the former, which has a density of 1517, boiled at 184° Fahr., and that the latter, whose specific gravity is 1424, boiled at 250° Fahr. Acids of intermediate strength boil at intermediate points.

Again, with regard to the congealing points of nitric acid, it appears that the pure anhydrous acid solidifies at a temperature a little above the freezing point of water, while an acid having the density of 1500 congeals at 40° below the zero of Fahr.; of 1400, at 41°; of 1330, at 2°; of 1215, at 40°. So that, as in the preceding case, the tetrahydrate is the compound which requires the greatest alteration of temperature to produce a given amount of change in it.

CHEMICAL PROPERTIES OF NITRIC ACID.

Strong solutions of aqua-fortis are not very permanent compounds; for they all undergo more or less change by keeping, and this change is still more readily effected when the acid is exposed to light, or to the influence of a moderately high temperature. Under these circumstances the liquid loses oxygen, evolves nitrous acid, and becomes coloured. Of all the acids, however, that which has a density of .1424 is, as we have already seen, the least prone to decomposition; for it not only keeps better than the acids of other strengths, but it also boils at the highest temperature, distills nearly unchanged, and requires the maximum degree of cold to freeze it.

Affinity of Nitric Acid for Water.—Aqua-fortis fumes in the air, and attracts moisture from the atmosphere, simply by reason of its affinity for water; and, as in the case of oil of vitriol, strong nitric acid combines with water with considerable energy, evolving, under these circumstances, a high degree of heat. Dr. Ure states, that the greatest amount of condensation takes place when 58 parts by weight of the strongest acid (sp. gr. 1500) are mixed with 42 of water. At this time a condensation takes place to the amount of 7·5 in the 100, and the temperature of the liquid rises from 60° to 100° Fahr. This experimenter has also remarked, that, when 90 parts of the strong acid are mixed with 10 of water, the 100 volumes become 97; and that when 10 parts of the same acid are combined with ninety of water, the resulting volume is 98. A glance also at the table just quoted from Dr. Ure will show, that, upon mixing a given weight of any acid, whose specific gravity is above 1378, with an equal weight of water, the real density of the resulting mixture is greater than the calculated density. This fact is illustrated in the following table:—

TABLE showing the REAL and CALCULATED DENSITIES of MIXTURE of equal weights of ACID and WATER.

Sp. Gr. of Acid used.	Calculated Sp Gr. of resulting Acid.	Real Sp Gr. of resulting Acid.	Total Increase of Density.
1500·0	1250·0	1294·7	44·7
1485·0	1242·5	1276·5	34·0
1467·0	1233·5	1258·3	24·8
1446·0	1223·0	1240·2	17·2
1422·8	1211·4	1221·2	9·8
1397·8	1198·9	1201·9	3·0
1378·8	1189·1	1189·5	·4

In the course of my own experiments I have found that equal parts by weight of strong nitric acid, of sp. gr. 1500, and water gives an increase of temperature which amounts to 140° Fahr.; that one part of such acid with three of water gave a heat of 130° Fahr.; and that one of acid with six of water produce a temperature of 100° Fahr.; the densities of the resulting liquids being 1300, 1176, and 1090.

Action of Nitric Acid on Litmus Paper.—The acidifying power of this acid is very great, for it communicates a red colour to litmus paper, when the liquid is diluted so as to contain only ·27 per cent. of acid.

Action of Nitric Acid on the Metals.—With few exceptions, all metallic bodies act with considerable energy on ordinary samples of nitric acid, the metals themselves appropriating oxygen and liberating nitrogen, protoxide of nitrogen, binoxide of nitrogen, hyponitrous acid, or nitrous acid, according to the violence of the re-action. It appears, moreover, that all those metals which have the faculty of decomposing water, or of being acted upon by hydrochloric acid at ordinary temperatures, as, for example, zinc, iron, tin, &c., invariably produce a small amount of ammonia at the time when they are thus re-acted upon.

A consideration of the many facts which bear upon this part of our inquiry, will show that there are a great number of circumstances which influence the chemical changes to which we are now referring. It is found, for example, that most of the metals, but especially iron, copper, and tin, will exhibit either an active or a passive state, according to circumstances:—that is, they will either re-act with much energy upon the acid, or they will remain in it without producing any considerable change. Millon, who has devoted much attention to this subject, states, that the oxydation of the metals in nitric acid is subordinate to the concentration of the acid, to the temperature, to the presence of nitrous acid, and to the solubility of the resulting compound in the acid used. These principles extend to all the metals, but they present certain modifications, the chief of which it is very important that you should be acquainted with.

Copper is not attacked by nitric acid of specific gravity 1070, at a temperature of 60°, unless a little nitrous acid be present, and then the action goes on energetically. The application of heat, also, instantly causes the pure acid of this strength to re-act upon this metal. Again: Millon has found, that, contrary to what is generally stated, pure concentrated nitric acid, of specific gravity 1552, attacks copper with extreme violence at ordinary temperature; and this, he says, takes place with all acids which have a density intermediate between the last-named and 1070. He states, however, that a cold of 32° Fahr. will completely check this action; and, in the case of the acid sp. gr. 1552 and 1550, the copper becomes coated with a bluish crust, which entirely protects it from further action, even when it again reaches the ordinary temperature. Acids of sp gr. between 1450 and 1400 leave the copper in a metallic state, so long as they remain at a temperature of 32° Fahr.; but, when the temperature rises, they cover the copper with a bluish crust, and the action proceeds no further, unless the tube is frequently shaken; whilst weaker acids commence their action as soon as the heat is raised; though it be but a little, the time of commencement, however, varies with the strength of the acid; for he found that an acid of sp. gr. 1217 began to act on copper at a temperature of 50° Fahr., while that of sp. gr. 1108 commenced its action at about 36° Fahr.

Silver and Mercury present very nearly the same re-actions as the preceding.

Bismuth and Tin, however, operate in a different manner; for they preserve their metallic lustre in all the acids which have a density above 1500; in fact, Mr. Smith states, that the pure monohydrated acid may be boiled upon tin without undergoing decomposition. Weaker acids, as, for example, those which have a density between the last named and 1110, act with considerable energy on these metals, even at ordinary temperatures; but, if we dilute the acid so as to bring its density down to 1108, the metal is not attacked unless we apply heat to the tube.

Zinc is a metal which exhibits re-actions almost the reverse of the preceding, for it is, at ordinary temperatures, violently acted upon by nitric acid, whether the acid be strong or dilute. If, however, we make use of an acid whose specific gravity is at or above 1500, and take care to reduce it to the temperature of zero, the metal will not be attacked beyond being coated with a slightly yellowish white crust, and, if we employ weaker acids than this, the zinc perfectly retains its metallic lustre while it is under the influence of the temperature just mentioned.

Iron, as is well known, displays many peculiarities with regard to its action upon nitric acid. Schonbein, Faraday, Reuben Phillips, and others, have alluded to a great number of circumstances under which this metal retains its passive condition in nitric acid; and, although this is not the place for a full inquiry into the matter, yet I may, perhaps, allude to one or two of the results recently obtainedby Millon. He states, that when small balls of well-potisoed iron were pl aced in nitric acid of specific gravity 1500, they were sometimes covered with a black, and sometimes with a blue crust. When in this condition, the metal is not attacked by any acid, whether it be weak or concentrated, provided the temperature of the liquid is not raised. The protecting crust, according to Millon, exhibits the characteristics of protoxide of iron, a compound which is perfectly insoluble in nitric acid. Smith, also, states that the pure monohydrated acid may

be boiled upon iron without undergoing decomposition.

Metallic Arsenic is not attacked at ordinary temperatures by acids of any strength, and *antimony* is not acted upon unless the acids are very concentrated.

Lastly, it has been affirmed by Millon, that the agent which effects the oxydation of all the metals is nitrous acid—an acid which readily yields its oxygen to the metallic body, and then, by evolving binoxide of nitrogen, and re-acting upon the nitric acid, it produces a new proportion of nitrous acid, so that the merest trace of this potent element in the aqua-fortis employed is sufficient to establish, under favourable circumstances, an energetic and continuous action upon the metal: while the presence of any compound which has the faculty of appropriating the binoxide thus formed; as, for example, a little protosulphate of iron, will completely put a check upon the continuance of these changes. Kulmen, Dumas, and others have also noticed, that when any acid is used, in conjunction with the nitric, having the power of liberating hydrogen, the re-actions are to a certain extent altered; for the binoxide, instead of attacking the nitric acid, yields up its azote to the hydrogen, and thus gives rise to the formation of ammonia. This fact is of some importance to us in our analytical inquiries, and I shall take leave to discuss it somewhat fully hereafter.

Action of Nitric Acid on the Metalloids.—This acid parts with its oxygen so readily, that it acts with considerable energy on all the solid nonmetallic substances: some of them, as phosphorus, decompose the acid at ordinary temperatures; while others, as carbon and sulphur, require the aid of heat for the full manifestation of such a re-action. The effects, however, are not of such moment to you, and, therefore, with this slight reference to them, I shall pass on to consider the nature of the changes which take place when nitric acid is brought into contact with the commoner sorts of organic substances. This inquiry will constitute the subject of our next lecture.

ORIGINAL CONTRIBUTIONS.

CASES OF CHOLERA TREATED BY CALOMEL AND IPECACUANHA.

By JOHN W. TRIPE, M.D., M.R.C.S., &c.

In the early part of the present epidemic of cholera I was exceedingly unfortunate in its treatment, and therefore tried other means than those usually employed. The exhibition of stimuli and opium, of calomel and opium, either with or without chalk mixture, were all used unsuccessfully, and it was not until calomel and ipecacuanha were given in the doses to be mentioned, that I obtained any success. Under these circumstances, I have drawn up a brief history of all the earlier cases in which this treatment was adopted, that the Profession may judge of its efficacy.

Case 1.—Aug. 21, 8 a.m., Mrs. G., aged 35, visited on the 18th inst. a sister who lived in an infected locality, and was labouring under the disease. During last night she was attacked with severe diarrhœa, vomiting, and pains of the stomach. There were not any cholera cases in her neighbourhood.

When she first applied for assistance she was in a state of incipient collapse. At 2 p.m., her condition was as follows:—Pulse scarcely perceptible at the wrist, 120; skin cold and covered with a clammy sweat, eyes sunken, tongue livid, skin of fingers corrugated, rice-water dejections, vomiting, cramps in the legs, thighs, and stomach, vox cholerica, and suppression of urine.

The treatment, from the first, *i. e.*, 8 a.m., had consisted in the administration of 1 gr. of calomel and ½ gr. of ipecacuanha every quarter of an hour, and chalk mixture, with catechu every four hours. No opium or stimuli. Cold water, and cold milk and water for drink.

She gradually recovered from this stage, and became warm, but afterwards relapsed into her former condition. The cretæ mixture was discontinued, but the powders were persisted in, and she eventually recovered.

The secondary fever was treated by five grains of carbonate of ammonia, and ten minims of laudanum every four hours, and as the vomiting became urgent again on the third day, by the application of a blister to the epigastrium. The patient was not convalescent for fourteen days, the fever being typhoid in type.

Case 2.—August 22, 6 a.m.—Mrs. J., sister to Mrs. G., visited the latter on the 20th inst., went to bed in very good health last night, and was seized about 2 a.m. with cramps, vomiting, and diarrhœa. When I saw her at 6 a.m., she was in the algide stage, the pulse being imperceptible at the wrist, hands cold and wet, like those of a corpse after being dipped into cold water, fingers shrivelled as those of a washerwoman. Face shrunken, eyes sunk and red, tongue purple, cold, and furred in the centre; skin of the whole body of a purplish tint and cold. Purging severe and constant, stools of a light brown colour; no secretion of urine; cramps of the upper and lower extremities very severe, and slightly of the abdominal muscles.

The treatment was similar to that employed in Mrs. G.'s case, except that four ounces of wine was given between 1 p.m. and 3 p.m. She died a few minutes after 3.

Case 3.—August 24, 1 a.m.—Mr. S. had diarrhœa, vomiting, and cramps, at seven o'clock last evening, and procured a bottle of chalk mixture and catechu. He became choleraic, as I was told, about eight, but did not apply for further assistance until 1 a.m. The powders of calomel and ipecacuanha were given as above, but he died within two hours after they were commenced with. The usual symptoms of malignant cholera were manifested in this case.

Case 4.—August 27, half past 8 a.m.—Captain C., aged 35, a strong healthy man, began to purge and vomit about 2 a.m., but did not send to me until half past 8. He was at that time in a state of decided collapse, being cold and blue. Ordered half a grain of ipecacuanha and one grain of calomel every quarter of an hour. At 2 p.m. he presented the appearance of a person suffering from the disease in its most malignant form; his voice being almost lost, the pulse at the wrist imperceptible, hands and fingers wet and cold, cramps of the upper and lower extremities very severe; rice-water discharges from the bowels, which he passed in bed involuntarily. The diarrhœa and vomiting are not so urgent as at 8 a.m. Suppression of urine.

Since I first saw him, he had taken twenty powders; he was ordered to continue them every quarter of an hour with a table-spoonful of cold water after each, and a little cold milk and water occasionally. At 4 p.m. the pulse became slightly perceptible at the wrist, but not sufficiently so to be counted; at five it was thready, and 160 per minute. He recovered gradually; but suffered most severely from secondary fever, which was typhoid.

The treatment, during this stage, consisted of five grains of carbonate of ammonia, and one drachm of tincture of bark every four hours in one ounce of water. The mouth was severely affected with the mercury, but the symptoms of amendment commenced before the gums became raised.

Case 5.—August 28.—Mrs. W., living in Stepney, had diarrhœa of an ordinary character for three days before any symptoms of cholera showed themselves, which they did this day, at about three a.m. Four days prior to her attack, a lodger had been taken out of her house to the workhouse whilst suffering from the malady. At half-past six a.m., she was in a state of partial collapse; the ordinary change in the features, voice, and tongue, as well as the cramps, peculiar diarrhœa, and sickness, characteristic of the algide state, were all present. At ten a.m., her pulse could scarcely be felt, skin of fingers corrugated, hands quite cold and moist, cramps worse, sickness and purging less. The powders had been exhibited with tolerable regularity, eleven having been given. At three p.m., slight symptoms of re-action presented themselves, and increased until the secondary fever became very great. On the third day she became delirious tongue brownish-black, and dry, gums covered with sordes, and readily bled; no mercurial fœtor. Treated with tincture of bark, aromatic spirit of ammonia, and 6 oz. of wine daily. She recovered perfectly by Sept. 10th.

Case 6.—Aug. 30.—At 10 a.m., was called to Mr. W., who had become affected during the night with severe bilious diarrhœa and vomiting, cramps of his limbs, spasms, general coldness, especially of the extremities, suppression of urine, and a slight diminution in the power and tone of his voice. He had taken, before I saw him, a mixture of chalk, catechu, and laudanum, but without benefit. There were not any rice-water purgings or very marked collapse, the pulse being readily perceptible. The powders of calomel and ipecacuanha were given in the ordinary way; after the fourth, the vomiting ceased, and after the ninth, the purging also stayed, but the cramps became very severe. When he had taken thirty powders he had much improved, and at 9 p.m. was out of danger. He recovered without any subsequent fever or salivation.

Case 7.—Sept. 5.—Mrs. McC—, aged 22, lost her husband and child from cholera on the 2nd inst. She removed next day into a street in my neighbourhood in which no case of the disease had hitherto shown itself. On the following day, the 4th, her bowels became relaxed, and during the night, *i. e.*, at 4 a.m. of the 5th, she sent to my house. She was then in the early stage of cholera. Treatment, calomel and ipecacuanha as usual. At 12 a.m., the disease had reached its climax, her countenance being choleraic, hands and feet blue, cold, and damp; the body rather warm, eyes injected and sunken, vox cholerica, tongue purplish and furred, cramps, rice-water dejections, and cessation in the secretion of urine. The powders were still continued, and in four hours and a-half the vomiting and purging ceased; they returned next day, and were stayed by carbonate of soda and laudanum. The secondary fever assumed, as usual, the typhoid type, and she was convalescent on the 12th.

Case 8.—Sept. 7.—Mrs. W., aged 26, expects to be confined daily. She was seized last night with diarrhœa and vomiting, and this morning with cramps. When I saw her at 10 a.m., she was suffering from cholera. The disease assumed the same form as in the preceding case, collapse coming on at 11 a.m., and lasting for about six hours. Her tongue blue; face and skin dusky; extremities cold; cramps very severe; pulse 120. She was treated by the powders, as in the other cases, and was going on favourably the next day, when labour came on and passed through its ordinary course, until it was completed by the birth of a dead fœtus and the expulsion of the placenta. She sank in thirty-six hours, with symptoms of puerperal fever.

Case 9.—Sept. 8.—Mrs. M., aged 33, has had diarrhœa for the last two days. She first perceived the rice-water purging and the cramps about 2 a.m., and about an hour afterwards sent for a neighbouring medical practitioner, who prescribed a chalk and catechu mixture. She became much worse, and sent for me at half-past six, a.m. She was then in a state of collapse, with constant vomiting and purging, cramps, and that feeling of utter prostration so common in the disease. The powders of ipecacuanha and calomel were given; the vomiting and diarrhœa soon ceased, but returned the next day. The secondary fever was very great, and lasted for fourteen days, when she sank. Her friends were not in a condition to procure her the necessary support, and yet refused to receive any aid from the parish.

Case 10.—Sept. 8, 3 a.m.—Mr. B., a strong healthy man, sent for me to attend him for a diarrhœa. He then had rice-water alvine dejections, but no cramps. At eight, he had the symptoms of malignant cholera, including vox cholerica, purplish tongue, cold clammy skin, non-secretion of urine, &c. Was ordered a powder every quarter of an hour, and cold water for drink. He became worse during the next two hours, at the end of which time the surface of the body began to get

warm. At the expiration of six hours he was comparatively comfortable. He had but little secondary fever.

Case 11.—Sept. 8.—R. M., aged 7, living in the same house with Mrs. M'C., was this day attacked with the disease, which assumed a malignant type, and pursued a course similar to that described in Mrs. M'C.'s case, except that the collapse was not so intense. He was treated in the same way, and with a similar result. The vomiting returned a few hours after its first suspension, and required a blister to the epigastrium before it finally ceased. Fever of a typhoid type supervened on the second day after the diarrhœa ceased, and lasted until the fifth, when it gradually subsided.

Case 12.—Sept. 9, 9 a.m.—John K., aged 42 complains of constant and severe rice-water purging, of vomiting, cramps, and great prostration. His features are shrunken; tongue purplish and furred; feet and hands cold; body warm; urine suppressed. These symptoms came on about two hours ago. The powders were administered in the usual doses and with the usual frequency. By the evening he had considerably improved, so much so that the powders were exhibited every hour only. He had less subsequent typhoid fever than usual, and was convalescent on the fifth day. No salivation ensued.

Case 13. Sept. 10.—8 a.m.—Mr. B., aged 60, a stout healthy man, got up at his usual time, 6 a.m., and went out. He returned in a few minutes, saying that he felt very weak and poorly. In about half an hour diarrhœa and vomiting came on. When called to him he was in a perfect state of collapse, and presented all the signs of malignant cholera. His pulse was imperceptible at the wrist, skin of trunk and extremities cold and damp, skin of hands corrugated, tongue blueish, cold, and furred. The powders were given as usual, but he never rallied and died in the evening at eight.

Since the above, I have had many cases which have been treated on this plan, only two of which died in the algide stage. It would occupy too much space to give an outline of all my cases, and I have, therefore, preferred sending an abstract of the first thirteen only.

The vomiting and purging usually ceased in a few hours after the powders were commenced with, although the former occasionally returned, but was readily relieved by blistering, and a mixture of soda and laudanum.

In these thirteen cases, thus treated, five were fatal, three during the algide stage, and two during the subsequent attack of typhoid fever. Of the three deaths, which happened during the collapse, one occurred in two hours after the treatment was commenced with, and, therefore ought to be excluded. We should then have two deaths in this stage out of twelve cases.

Of the two deaths during the fever, one happened in a woman who brought forth a dead child, when apparently progressing favourably; and the other, in a woman who had not the necessary stamina to carry her through the disease, but who nevertheless lived until the fifteenth day, and then died from exhaustion, partly induced by want of proper food and attention.

Commercial-road, Sept. 26, 1849.

RETROVERSION OF THE UTERUS AS A CAUSE OF STERILITY.

By EDWARD RIGBY, M.D., &c., Senior Physician to the General Lying-in Hospital, Examiner in Midwifery in the University of London.

I must be permitted to give one more case of retroversion occurring in an unmarried female, as it illustrates several points besides the important one of relief being afforded by the use of the prone couch.

Miss D., aged 35; small, but well made.

July 31.—Complains of constant dull pain behind the symphisis pubis, or rather centrally in the pelvis, increased by moving; when very severe it becomes sharp no pain is felt on evacuating the bladder or rectum, or by sitting down upon a hard seat, but greatly aggravated by a rough carriage, and most of all by walking; bowels very confined tongue pale at the edges, and furred; headache catamenia latterly have been regular.

On account of weakness of the spine, dyspepsia, &c., she underwent the water cure at a place on the Rhine in its full extent of severity five years ago, from which time she dates her present symptoms. Six months ago she consulted a practitioner of eminence, who ascertained the presence of ulceration, and relieved her considerably, though temporarily, by the application of argenti nitr.

℞ Extracti Taraxaci, ʒi. o. n. ℞ Ferri sulphati gr. xvj.; magnesiæ sulph. ℥i.; acidi sulph. dil ʒi.; syrupi rhœados, ℥ss.; aquæ menthæ pip ℥viiss. M. ft. mistura cujus sumat cochl. magna ij. primo mane vel. bis die.

August 2.—Was in much pain after taking the medicine; bowels copiously relieved of solid fæces twice, but without abatement of pain. Rep.

August 4.—Bowels well and copiously relieved the evacuations still are not fluid; she now felt relieved for a short time afterwards; the head is easier; the tongue quite natural.

August 5.—Bowels still copiously opened evacuations not fluid; feels generally better.

Examination per Vaginam.—The uterus is retroverted; the fundus pushed down towards the left sacro-ischiadic notch. Rep. Med. Let her use the prone position.

August 8.—Feels much better; likes the prone position; has been quite free from pain. Bowels moderately open. Rep.

11.—Much better. Bowels moved without medicine. Feels great relief in the prone position.

℞ Liq. taraxaci, ʒi.; inf. gentianæ co. ℥i ter die. Rep. Mist. ferri c. magnesia sulph., o. m.

13.—Catamenia ought to have appeared yesterday, but did not; feels much better and easier. Rep.

20.—Feels weak. Lips and tongue pale; vertex headache.

Mist. Ferri citratis effervescens bis die. Rep. Mist. Ferri sulph. c. magnes. sulp. o. m.

22.—Much of her old pain in the lower part of the pelvis. She has overwalked herself, and, in all probability, displaced the uterus. Bowels open; feels stronger. Rep.

Sept. 5.—As she was not relieved by a good trial of the prone position, I examined the uterus a few days ago, found it again retroverted and replaced it. Still, however, she is in pain, and, at times, the prone position brings on pain about the symphisis pubis, as if, after a while, from the lax state of the soft parts, the fundus inclined too much forwards and became anteverted, so that now I desire her to use the prone or supine position according to her feelings.

℞ Confect. rosæ, ℥i.; acidi sulph. dil. ʒi.; decoct. cinchonæ, ℥xij.; misce. coque & cola bene. Ft. mist. cujus sumat coch. magna, ij. ter die. Decoct. quercûs c. alumin, ft. injectio.

25.—Has been much better until yesterday, and has regulated the position of the body by her sensations, but during the night she was awoke by a return of the old pain, which has continued very severely ever since, nor has she been able to relieve by the prone position. She is much depressed in consequence.

Examination per Vaginam.—The fundus is strongly retroverted, and appears to be a good deal fixed; I replaced it, and advised her, whenever she has a return of these symptoms, indicating a displaced condition of the uterus, to put herself upon the knees and elbows. Rep. Med.

28th.—Finds great benefit from "the extra prone position," as she calls that of the knees and elbows; she uses it for about three minutes at a time, and entirely relieves the pelvis from the weight of the superincumbent viscera. Is returning to her house in the country.

Oct. 20.—Bore her journey well; has had little or no symptoms of retroversion since; is in good health, beyond suffering from considerable irritation of the vagina.

℞ Liq. plumbi diacetatis, ʒii.; decoct. papav. ℥viij., M ft. lotio.

℞ Plumbi diacet. [illegible]) extr. conii. a.a. gr. x.; pulv. acaciæ, ʒss. [illegible] brium.

November 25.—[illegible] her thanks for her improved [illegible] now almost for- [illegible] t, as well as difficulty standing, and [illegible] so much better as to be able to drive out pretty regularly between two and three hours without feeling any worse. I can also walk a little, but am very cautious in this respect, in the great fear of bringing on a relapse. I have found the greatest benefit from all the varieties of prone position, and have been, and am still very persevering in adopting them; kneeling on a footstool, with my forehead on the ground, has been very effective."

It is not always easy to assign the precise date of these displacements, nor is it generally of much consequence; suffice it to say, that the ulceration was most probably a result of, and therefore subsequent to, the retroversion, having been produced by the great engorgement of the anterior lip of the os uteri, which so frequently exists in these cases. If habitual costiveness in a lax flabby state of the soft parts had not been the original cause, at any rate, it was now the means by which the fundus was not only retained in its retroverted state, but forced down deep and to the left side, so as to be not far from the sacro-ischiadic notch. Although her symptoms gave strong reason to suspect the presence of retroversion, I did not propose an examination until I had satisfied myself that the bowels had been thoroughly unloaded; and the treatment for this purpose disclosed a far greater amount of accumulation than I had expected. When I did pass the uterine sound, I not only found my suspicions fully verified, but the reposition of the uterus produced instantaneous and complete relief.

Being of a feeble and relaxed habit, the course of laxative medicine began to weaken her and tonics were given with good effect. The white lip and pale tongue indicated a mild course of steel, and there is no preparation so agreeable as that of the citrate given in an effervescing form. I afterwards substituted for this a mild decoction of cinchona, which, in this relaxed, flabby state of system, is far better than any form of quinine; for, being deprived of its gallic acid, it certainly loses some of the virtues which the common decoction possesses.

In replacing the uterus I enjoined the prone position, and the relief which it gave was so complete, that she was induced to overwalk herself, and thus brought on a return of the retroversion. This relapse was probably favoured by that want of tone in the soft parts to which I have before alluded, the existence of which was very distinctly shown by the effects of the prone position when continued beyond a certain time. Pain was felt behind the symphisis pubis, and other symptoms of anteversion. I have now seen this happen in several cases, and have verified the fact by examination, when the fundus has been felt forwards against the bladder, the os uteri directed into the hollow of the sacrum. I have at this moment a case in the Hospital for Women which is very similar to the above, and where, by carefully attending to her sensations, she knows pretty correctly if any displacement exists, and in what direction; she is thus able to rectify it by mere position, and, after very protracted suffering, she is now steadily improving. In her case, I have used the bark and alum injection with good effect; an increased tone of the vagina evidently giving greater support and steadiness to the uterus.

I can only attribute the return of the displacement, which occurred in so severe and painful a degree during the night of Sept. 25, to the peristaltic action of a loaded intestinal canal, when she was probably sleeping on her back; it was then that I proposed the position of the knees and elbows for a

A position like this must evidently exert a powerful influence on that of the abdominal viscera; the various coils of intestinal tube must necessarily ride up to the superior parts of the abdominal cavity, and leave the pelvic viscera entirely free from the pressure which they have hitherto exerted upon them. No posture can possibly favour the spontaneous reposition of a retroverted uterus so effec-

tually as this, unless it be the still further degree which my patient adopted of her own accord.

The effects of position in displacements of the uterus which I have shown in this and the preceding cases, are, I trust, sufficient to render the subject worthy of attention. I am far from supposing that they can be successful, or even useful, in every case, and even in the most favourable ones I am convinced they will fail unless due attention be paid to reducing, as far as possible, the weight of the superincumbent intestines, and restoring the tone of the system both by general and local treatment.

HOSPITAL REPORTS.

ST. BARTHOLOMEW'S HOSPITAL.

The operation of lithotomy was performed by Mr. E. A. Lloyd, on a boy of the name of Charles Gosling, aged eleven, on Saturday last. The operation was completed within a minute. A nearly straight staff was employed. The grooved portion was straight, the beak only being slightly curved, and having no groove. The operation was completed with the knife, by which the first incision was made. The knife seemed to have a broad and very long blade, its cutting edge was little more than an inch in length. It appeared to answer its purpose well, as all parts of the operation were effected with the utmost facility. It is, we believe, exclusively employed by Mr. Lloyd, as is also the staff.

The stone was of small size, and composed externally of oxalate of lime. Its nature had been anticipated, as the urine, when examined microscopically before the operation, showed numerous octohedral crystals.

The boy had suffered from symptoms of stone for more than two years. He is going on very favourably.

ENCYSTED TUMOUR.

On the same day as the above Mr. Lloyd removed an encysted tumour from the posterior part of the neck of a female, Anna Dodd, aged thirty-nine. The cyst had existed twenty-three years, and was one of that class, the contents of which consist, for the most part, of epithelial cells. It had occasioned the patient considerable pain of late. She is going on favourably.

CARCINOMA OF THE LEFT MAMMA.

The breast was removed by Mr. Lloyd on Wednesday, Nov. 28.

The patient, Mary Webb, of the age of 55, a married woman, had borne and suckled one child, and had enjoyed good health through life; but, of late, she had in some degree lost strength. The tumour in the breast, the existence of which had been known for between four and five years, was of large size, increasing, and becoming more and more painful; but, as usual in such cases, the pain was only occasional. There was also a tumour, of the size of a walnut, at the margin of the axilla, similar to that in the breast, which, as well as the entire mamma, was removed.

Under the microscope, the constitution of both tumours appeared identical. There were observed numerous round and oval cells, very transparent, of small size, varying from about 1-3250 to 1-4600 of an inch, numerous large granules, and more fat globules than is common in cases of the same form of disease.

The patient has gone on without an unfavourable symptom.

Mr. Lloyd, also, on November 28, removed the left breast, on account of a carcinomatous affection, from Elizabeth Emmerton, a married woman, aged 46. She had given birth to eleven children, some of which she had suckled. The youngest is five years old. She has the catamenia at the present time. The chief part of the disease was a tumour in the outer portion of the mamma. She first observed it between five or six years ago. There were, moreover, some small hard tumours of the size of a millet grain, in different parts of the mamma. There were, also, some glands slightly enlarged, of the size of a split pea, situate between the mamma and axilla. All the diseased parts were removed, and there was very little blood lost at the operation. Examined by the microscope.—The growth exhibited numerous large and oval nucleated cells, the nuclei being also very large; here and there an elongated cell, some granular matter, and a few fat globules. In this case the cell-membrane was thinner, and the cells from two to three times larger than those in the former. Some secondary hæmorrhage occurred, but the patient is proceeding most satisfactorily.

Mr. Lloyd was asked if it was judicious to remove a carcinomatous breast, the neighbouring absorbent glands being at the time in a state of enlargement.

Mr. Lloyd replied: I do it in some cases; because I have operated in many such cases with as much success as has attended the operation in others, in which there were no diseased glands discoverable; and also because it by no means follows that the enlarged glands have undergone cancerous degeneration. Mr. Lloyd referred to several cases in illustration of the point. One of the cases was a woman of the age of seventy, in Lucas Ward, from whom he removed a very large carcinomatous breast, there being at the same time a greatly enlarged gland in the axilla, which was not interfered with. The wound healed with rapidity, and when the patient left the Hospital the enlargement of the axillary gland had nearly subsided. He also mentioned the case of another patient in Lucas Ward, from whom he removed a carcinomatous breast in a state of ulceration, there being at the time a gland in the axilla considerably enlarged, but which was left. By the time the wound had healed the enlarged gland was not to be felt, and though more than two years have elapsed, yet there has been no recurrence of the disease.

Mr. Lloyd likewise adverted to a case in which he operated in the presence of Dr. Ramadge, Mr. Hay, of Newgate-street, and the late Mr. Parker, of Oxford. In that case the cancer was in a state of ulceration, and there were several enlarged glands in the axilla. The whole mamma was removed, and also the glands, five in number. In removing the latter, the axillary artery, vein, and nerves were exposed—so deeply were the diseased glands seated; yet the patient survived several years, and died without any recurrence of dis

LONDON HOSPITAL.

PROTRACTED GONORRHŒA.

PHYMOSIS—DIVISION OF THE PREPUCE IN THE ORDINARY MANNER BY LONGITUDINAL INCISION. IRREGULAR ULCERATION OVER THE ENTIRE SURFACE OF THE GLANS PENIS—REMOVAL OF THE PREPUCE, AND RAPID RECOVERY.

A middle-aged unmarried labourer, of rather a strumous habit, came under the care of Mr. Nathaniel Ward, as an out-patient.

He had contracted about a month prior to his application at the hospital, a severe attack of gonorrhœa, followed by extensive inflammation of the prepuce, which consequently could not be drawn back from over the surface of the glans penis. He placed himself under the care of a medical man, who divided the prepuce by a longitudinal slit in the manner usually adopted.

As he did not apply to him for relief till some time after the occurrence of the phymosis, the inner surface of the prepuce had become superficially ulcerated, and secreted a fluid analogous in appearance to that coming away from the urethra.

The urethral gonorrhœa subsided under treatment in about five or six weeks after he came to the hospital; but local applications and constitutional treatment exerted but a slight and only temporary benefit on the morbid action set up in the prepuce, which continued for two or three months in nearly the same condition, as immediately after it had been longitudinally divided.

In consequence of this protracted discharge from its surface, and it being impossible to keep the two folds, from contact with the glans, the surface of the latter very soon took on a similar diseased condition, and in a month became irregularly ulcerated over its entire surface, here and there assuming a greyish, sloughy appearance, and discharging an unhealthy sanious and puruleut fluid.

The only evident means of effecting a cure being the entire removal of the prepuce, it was done in the following manner, viz.:—Having been drawn forward over the glans penis, and transfixed in the middle by a sharp pointed bistoury, immediately beyond the termination of the original incision, the two halves were successively divided by two concave sweeps, in a line with the convexity of the glands.

Sutures were applied to bring together the inner and outer membranes and warm water dressing used.

At the end of a fortnight cicatrisation had taken place, and in about a week after, the glans penis had assumed, by the aid of a little astringent lotion, and frequent washing, its natural appearance.

Mr. Ward observed, in reference to this case, that it formed a very practical illustration of the advantage of complete removal of the prepuce over its more usual longitudinal division.

He recommended a similar proceeding also in

of the two curved incisions, after the bistoury transfixed the prepuce, a clean unjagged circumference was left.

In reference to the removal of the inner membrane, which always requires a second division, owing to its comparative inelasticity, and from its generally embracing the glands so tightly that it cannot be brought forward in the first incisions, so as to divide it on a level with the external membrane, Mr. Ward, in this case, incised it longitudinally by a pair of scissors, as far as the corona glandis, and then swept off the two lateral folds, so to bring the membrane in the same line with that of the divided external membrane.

FATTY TUMOURS BENEATH THE MUCOUS MEMBRANE OF THE CHEEKS.

An unhealthy child came under Mr. Ward's care as an out-patient, August 14, 1849, with two tumours on the inside of the cheeks.

They were equal in size, and about the dimensions of a small walnut, with the long axis from before backwards, placed in the situation of Steno's duct. when the mouth was open, they protruded into that cavity between the back part of the molar arches.

The membrane over them was tense and shining, and the swellings to the eye and to the touch gave the idea of circumscribed collections of fluid, which, from their relation to the duct of the parotid gland, were diagnosed, as having some connexion probably with a diseased condition of that canal.

On puncturing them, however, the turned out to be irregularly lobulated masses of fat, and were easily removed by a longitudinal incision.

The case was interesting, merely on account of the rarity of situation of the fatty tumours.

KING'S COLLEGE HOSPITAL.

On Saturday last Mr. Fergusson performed two important operations.

The first was excision of the eye-ball. The patient, a middle-aged man, had suffered for twelve years with disease of the eye, which had been originally caused by a punctured wound from a shoemaker's awl; the consequence was, that the sight of the eye was lost. Latterly he had suffered severe pain in the orbit and forehead, and the eye had become very prominent, and a dark substance was observed protruding into the anterior chamber. These symptoms led to the suspicion of some malignant tumour, deeply seated in the orbit, and involving the eye; and as the patient suffered very much, and in other respects was perfectly healthy, Mr. Fergusson determined to remove the morbid mass. The operation was performed in the following manner:—An incision through the skin was made at the outer angle of the orbit, and these were slightly dissected away; the knife was then carried deeply around the ball of the eye, into the orbit, and by means of a

hooked pair of forceps, it was held up and its posterior connects were cut away; by this means the eye was removed. On looking at the back of the orbit no tumour was found; the hemorrhage was but slight, and easily restrained by a pad lint.

On cutting into the eye it was found completely disorganised, and its interior changed into a dark looking morbid deposit, having an appearance not unlike that of a melanotic transformation.

The next patient operated upon was suffering from a bad stricture of the urethra, complicated with perinæal and scrotal fistulæ. He had laboured under stricture for many years; had neglected himself fistulæ had formed, through which nearly all the urine came away. He had not had a catheter passed for a long time previous to his coming into the Hospital, and, on admission, Mr. Fergusson discovered that he had a cartilaginous stricture at the bulb, through which it was impossible to pass any instrument. It was, therefore, determined to operate upon him by the perinæal section, which was performed in the following manner:—

The patient was placed fully under the influence of chloroform, and a small catheter was attempted to be introduced, but, notwithstanding the use of great care, it was found useless to endeavour to pass it further than the face of the obstruction. The patient was then tied up in the position for lithotomy, and, the catheter being retained, a free incision was made in the middle of the perinæum through the hardened tissues, until the point of the knife impinged upon the catheter. The urethra was then opened, and the stricture was freely divided its whole length towards the bladder. The catheter was then changed for a larger one, which, after another incision or two, was carried along into the bladder, and there retained. There was not so much difficulty as usual in this instance; for this operation, in those cases which really require it must be considered as one of the most difficult in the whole range of surgery; nevertheless, now give more decided relief to the patient, and there is very little hazard when it is performed in the cautious and skilful manner, practised by Mr. Fergusson. This gentleman made some excellent practical remarks afterwards, with reference to this proceeding, which we have not time at present to notice; but, as he promised the pupils, he would, at a future time, make it the subject of a Clinical Lecture, we shall take that opportunity of giving our readers a report of the same.

NORTH STAFFORD INFIRMARY.

Thomas Colclough, aged 17, collier, admitted July 6, 1849, under the care of Mr. Ball. He is a robust, healthy youth, sanguine temperament, and of temperate and regular habits.

At twelve o'clock on the same day, when working in a coal-pit, was suddenly struck down by a blow from a brick which fell from the shaft above on his head. He was taken up insensible and brought to the Infirmary. On his admission he presented the following symptoms:—

A large wound on the scalp, extending from near the crown to the back part of the head, about two inches in length. On examination a fracture, with depression, apparently involving the parietal and occipital bones, distinctly felt. His pupils are equally dilated, and not affected by light. He is quite insensible, unless roused, which is done with difficulty, and then relapses instantly into the same state. He continually shifts his head from side to side, and moves his limbs uneasily. His sensation is impaired, his surface cold, his pulse labouring and slow.

Head to be shaved, and warmth to be applied to the surface and feet.

Towards evening his water was drawn off, rather ammoniacal, but not more than a pint in quantity.

℞ Hyd. chlorid. gr. v. h. s. sum.

℞ Ol. Ricini, ℥j.; decoct. hordei oj. fiat enema; statim utendum.

July 7.—Has had two motions, and has passed water several times during the night. Pulse more full, but still laboured. Venesectio ad ℥xx. consultation being called, it was decided to elevate or remove a portion of bone, according as was found necessary. The lacerated wound was T-shaped was enlarged in each direction, the seat of fracture being laid bare. The upper portion of the occipital bone was found projecting, having been pushed outward by the depression of the right parietal bone that portion forming the angle of the sagittal and lambdoidal suture being fractured for about two inches. The detached pieces, which altogether formed a surface of two inches by three, were removed, and the edges of the wound brought together by a suture, and wet lint applied.

Since the operation has been more sensible, but still continues very uneasy. He answers questions readily, and appears less confused. He can tell when anything is placed before his eyes; but cannot distinguish one object from another.

3 p.m.—Venesectio ad ℥xvi., the countenance being flushed, and the pulse more full and labouring. The appearance of the blood, from the recent bleeding, does not indicate inflammation. Passes water freely, and has had another motion.

11 p.m.—Venesectio ad ℥x., the pulse being again inclined to become full.

As his water had not been passed since 3 p.m., a catheter was introduced; but not more than about half an ounce of water came away.

8th.—Has passed rather a restless night; has made water three times; appears very drowsy pupils act slightly; he is very thirsty, asks when he requires drink; surface hotter than natural; head not more so than other parts.

℞ Haust. sennæ ℥iss. stat. s.

2 p.m.—Bowels not opened by medicine. Enema calidæ aquæ.

8 p.m.—Has had three motions; appears much the same in all respects.

9th.—Has passed a restless night; motions and water come away involuntarily. Appears more drowsy, and altogether less rational.

10th.—Much in the same state as on the preceding day; wound dressed; with the exception of a slight fœtor, its appearance is healthy.

11th.—Not so well, all the bad symptoms being aggravated. He is roused with difficulty He has no power over his sphincters. His tongue is dry, and his skin rather hotter than on the preceding day. Bowels opened once. Takes gruel every quarter of an hour, with apparent relish.

℞ Tinct. opii. m. xx.; h. s. sum.

12th.—Has passed a better night, and appears altogether better this morning. His motions and urine are no longer passed involuntarily. His pulse about 80, and less frequent than it has been since the accident. Broth ordered and the gruel continued.

13th.—Has passed rather a less quiet night, but has slept since daylight. He continues steadily to improve.

10 p.m.—Complains of intense pain in the head.

℞ Tinct. opii. m. xx.

From this time he continued steadily to improve, complaining occasionally of headache and continually of dimness of sight up to the end of September, when a piece of bone, about half an inch square, which had become carious, came away, and he was discharged cured. October 15, the wound being entirely healed. The dimness of vision had to a great extent left him, and he was in all respects, with this one exception, as well as before the accident. He has since visited the Infirmary as an out-patient, and was to resume his occupation this week.

Nov. 14, 1849.

Veno Beno.—A paragraph has appeared in some papers stating, that a substance called Veno beno, the leaf of a tree or climbing plant, is used as adding greatly to the strength and flavour of tea. The plant is indigenous in the Indian Archipelago, and naturalised in India. Lindley describes it as producing intoxicating effects, stimulating powerfully the salivary glands and digestive organs, and diminishing perspiration. In India it is used as a tonic and stomachic. It has a pungent aroma, and is of a warm stimulating nature.

PROGRESS OF MEDICAL SCIENCE.

FRANCE.

(From our Paris Correspondent.)

POPULAR LABORATORIES.

M. Dumas, Minister of Commerce, following up the course which he has commenced so well, proposes adding another *Professorship* at the "Arts and Trades," to those already existing in that excellent Institution for the instruction and improvement of the working classes.

M. Payen now delivers a course of lectures on Chemistry, as applied to the arts and industry; but this has appeared insufficient to M. Dumas, and a course of operative chemistry for the workmen will soon be opened, at which public demonstrations on a grand scale, as at the Sorbonne, will be given. It is said, that the beautiful new chapel of the Conservatory is to be converted into an immense laboratory for this purpose; but its stained windows, lofty columns, and narrow aisles seem little suited to such a destination. Many of the gratuitous courses delivered at the public Institutions here, include, I perceive, lectures on hygiene. This is an example well worthy of imitation, for in nothing are the working classes of every country more ignorant than in matters connected with the preservation of their health. Science, however, is rendered almost useless from the deplorable state of the drainage, which is infinitely worse throughout two-thirds of Paris than it is in the worst quarters of London. With a permanent source of disease beneath the soil, it is all but superfluous to teach the lower classes how to avoid maladies, the causes of which are beyond their reach.

M. Dumas has also evinced his desire to improve the condition of the people by the introduction of a law for the establishment of "retiring funds" for aged persons. This may be almost considered a measure of hygiene, because whatever improves the material comforts of the poor adds considerably to the sum of public health. Under the new law a national bank is to be created for the reception of sums varying from 10 francs to 10 centimes at a time. The annuity will not commence until the individual has reached the age of fifty; it can never exceed 24*l*., and its amount is to be calculated according to a scale appended to the law.

THE POLARISCOPE.

There is no instrument known here under the name of "Polariscope," but your correspondent evidently alludes to the apparatus employed by M. Biot for observing the rotatory power of certain fluids. This apparatus has been manufactured expressly for M. Biot by Bianchi, and was presented to the Academy of Sciences by M. Biot, on the 13th September, 1847. It is figured in the last edition of M. Pouillet's Treatise on Physics, Vol. II., p. 435. As you have already given a general description of the instrument, it is unnecessary to repeat one here; but it may be observed, that the ordinary apparatus can be adapted to the examination of fluids, by the slight addition of small tubes in which these fluids are placed. It is not, however, enough to have an apparatus. One must know how to use it. Hence, perhaps, the following remarks, published some time ago by M. Biot, may be useful.

We suppose, of course, the *ensemble* of the apparatus sufficiently known, but it may be well to give a general idea of it. A ray of light is reflected from glass, at an angle of about 35°30; and the mere fact of its being reflected renders it polarised. The polarized ray is thrown into a tube furnished with transverse plates, and thence falls perpendicularly on the surface of a double refracting prism, which is placed in the centre of a graduated circle, and which moves on an alhidade or transom. When the observer desires to examine liquids, small metal or glass tubes, closed at either end by glass plates, thin and parallel to each other, and containing the fluid to be examined, are placed in the line of traject of the polarised ray, before it arrives at the prism, the index of which marks zero. Now, if the fluid have no effect on the polarised ray, the extraordinary image is absent; if it have an effect, the

image is visible, and, on turning the transom of the prism to the right or left we arrive at a certain point where the image disappears.

The arc contained between this point and zero gives the angle of deviation for the red rays at least.

The principal parts of the apparatus are "the mirror, prism, and tubes."

The mirror, formed of black glass, is intended to reflect a ray of light at an angle of 35°30, and project it into the tube. By adapting a screw to the bar which supports the mirror it is easy to give it the proper inclination.

The light which is transmitted from the clouds is much preferable to that of the sun, and it will be well, when the apparatus has been arranged, to interpose something to prevent the sun's rays from falling on the mirror at the same time with those transmitted through the atmosphere.

Another precaution indispensable is, that the observer, who is to analyze the polarized ray, must not have his eyes exposed to the light. The brightness of the latter would prevent him seizing many of the delicate effects of polarization. Hence, the tube containing the reflected ray, the prism which analyzes it, and the operator, must be in a dark chamber; in fact, the mirror is the only part of the apparatus that should be exposed to the light. Still, the observer must have some light to read off the figures on the arc, and to obtain this M. Biot recommends the use of a separate door close to the operator, who can open and shut it without moving from his seat.

The prism must be of such a kind, that a ray of natural light, refracted by it, be resolved into two fasciculi. M. Biot points out the way of obtaining such prisms, and pronounces absolutely against the use of rock crystal or tourmaline. Iceland spar is the only substance that will answer.

As to the manner of regulating the apparatus, M. Biot gives the following directions:—"The first object is to give the reflected ray the greatest degree of polarization that it is capable of receiving. This is done by bringing the mirror to the point which the instrument-maker has marked theoretically: this done, the graduated circle that supports the prism is inclined, until its plane becomes perfectly perpendicular to the axis of the tube containing the reflected ray.

The observer now retires to the dark cabinet, and turns the transom until the extraordinary image becomes either absent or as feeble as possible. This position being well fixed, an assistant turns the screw which regulates the mirror, so as to change its plane slightly about the theoretical point, until the observer meets with the position in which the ray is most completely polarized, as shown by the disappearance of the image. The mirror is then fixed in this position, the side-door is opened to give a little light, and the index is brought to zero. The door is now closed, and the prism made to revolve until the image disappear again. Lastly, a new trial having shown that the mirror is properly placed, the prism is fixed on the transom by means of a screw If it were possible to conduct the preceding operations in a perfectly rigorous manner, the apparatus, thus regulated, would bring the principal section of the prism in the plane of reflection when the index marked zero; and the zero of the primary polarization would coincide with that of the circle. But this never occurs perfectly. Hence the observer must turn the index successively to the right and left, marking the places where the image is most feeble, and the limits will comprehend the true zero.

The "tubes" are of two kinds; one of tinned copper; the other of glass. The tubes are closed at both extremities with plates of glass, polished, and parallel to each other, and luted on stoppers, which latter must not possess any polarizing power. The apparatus which supports them must be fixed. Indeed, M. Biot recommends that all parts of the apparatus be as permanent as possible, in order to avoid those perpetual verifications which the least change of place would render necessary. The apparatus of M. Biot is sold by M. Bianchi, of the Rue de Sorbonne, and costs 24l. From the price, and the difficulty of managing, I fear that it is only suited to Professors of Chemistry, &c., and is beyond the reach of students.

TREATMENT OF TYPHOID FEVER BY COLD.

M. Wanner pretends not only to cure this fever, but to cut it short in a few days by the methodic administration of cold from the commencement of the disease, and without interruption. Every one or two minutes the patient swallows a small bit of ice, so as to furnish about a glass of fluid per hour. This is aided by a demi-lavement of cold water every six hours, and every second day a bath at 27° Reaumur.

The author affirms that all the patients treated in this way during the last three years, and they have been numerous, recovered.

SELECTIONS FROM FOREIGN JOURNALS.

REGENERATION OF THE SCIATIC NERVE.

The complete regeneration of nervous tissue has been asserted by Fontana, Tiedemann, Flourens, and others. But in almost all cases the proofs of absolute regeneration have been in some point defective. An observation on this subject by M. Brown Séquard possesses some interest. On the 15th August, 1848, the sciatic nerve of a guinea pig was cut, and, in order to avoid all injuries to the paralyzed limb, the animal was enclosed in a cage, carefully wadded with cotton wool. A month after the operation sensibility began to return. Two months afterwards the animal began to regain the power of motion. Six months afterwards sensibility was almost entirely restored; the animal moved the limb tolerably well. In nine months the sensibility and mobility were perfectly restored. In September, 1849, the animal was exhibited at the Société de Biologie, and the nervous endowments were pronounced to be quite perfect. A few days later the animal was killed. In cutting through the nerve, above the point of section, twitches of the muscles were observed. The point where the nerve had been cut was discernible only by the adherence at that point of the muscular fibres to the neurilema, and by the previously noted position of a large branch. There was no swelling or other indication. Examined microscopically by MM. Lebert and Brown-Séquard, the nerve tubules appeared absolutely natural.—*Gaz. Méd.*, Nov. 10.

LESIONS OF NUTRITION AFTER SECTION OF THE SCIATIC NERVE.

The bruises, losses of nails, ulcerations, &c., observed by some experimenters after section of the sciatic nerve, are stated by M. Brown-Séquard to be merely the effects of mechanical injuries sustained by the paralyzed limb When the animal experimented upon was enclosed in a padded cage, no such lesion of nutrition followed.—*Gaz. Méd.*, Nov. 10.

COMPOSITION OF THE BLOOD, EVACUATIONS, AND URINE OF CHOLERA.

The following is an analysis of a paper by M. Becquerel, in the *Archives Générales*:—

1. In 6 vomited fluids the re action was acid 4 times; neutral, twice. The specific gravity varied from 1006 to 1021. The solids, in the filtered liquid, varied from 6·37 to 54·7 parts per 1000. The albumen was not weighable in two cases; in 4 it varied from 5·11 to 31·5 parts per 1000. The chloride of sodium ranged from 2 35 to 6·75. The other salts and the non-albuminous organic matters varied from 4 to 24 parts per 1000. The average of the whole was, water, 972 9; albumen, 13; chloride of sodium 4·93; other organic matter and salts, 9·17 in 1000 parts. The flaky matters, separated by the filter, seemed to bear a general ratio to the amount of dissolved solids.

2. In four stools the re-action was always alkaline; the specific gravity varied from 1004 to 1011; the solids, from 8 to 15; the albumen, not weighable in two cases, reached in the others 3·22 and 4·51 parts per 1000. The chloride of sodium in one not reckoned, in the others varied from 3 to 7. The average of the four was—water, 987·11; albumen, 3·86; chloride of sodium, 5·58; other salts and organic matter, 3·45, in 1000 parts.

3. In four specimens of serum taken from young male adults, from 25 to 35 years of age, in the stage of re-action, the specific gravity varied from 1035 to 1044; the solids varied from 98·21 to 113·40; the albumen, (purified,) from 48·21 to 81·66; the chloride of sodium, in three cases, from 7·38 to 12·26; the fatty matters, in two cases, 4·23 and 4·70; the extractive matters reached the astonishing amount of from 28·74 to 38·40 in the 1000 parts. The average of the four was—water, 892·6; albumen, 65·04; fatty matters, 4·46; extractives and some salts, 32·9; chloride of sodium, 9·45.

4. In two specimens of blood, taken in the cold stage, from men aged 30 and 35 years, the composition was as follows:—The first case, a man bled the morning of his death, from severe cholera with cerebral congestion, the pulse strong and hard, the skin yet cold and cyanosed—sp. gr. 1074·1; water, 722 52; red particles, 189·60; fibrine, 1·88; pure albumen, 51·80; chloride of sodium, 6·61; other salts, fatty and extractive matters, 27·59. In this case the fibrine was collected with great difficulty; left to itself, the blood hardly coagulated and separated scarcely any serum. The second case, a man bled the morning of his death; exact symptoms not given; specific gravity, 1075; water, 754·95; red particles, 160·2; fibrine, 6·5; pure albumen, 69·35: chloride of sodium and other salts, fats, and extractives, 20. Becquerel is not able to account for the increase of the fibrine in this last case. The observations on the urine are limited to the recognition of albumen; from a very small number of cases, Becquerel determines that, in some cases, there is no albumen in the urine, in others a greater or less quantity.

M. Becquerel's results agree generally with those obtained in this country. The chief points of novelty are the enormous increase of extractive and fatty matters in cholera blood, and the diminution of the albumen. With regard to the flocculi of the stools, Becquerel regards them as coagulated albumen, but he does not give the grounds on which he bases this opinion. He thinks that the albumen dissolved in the cholera fluid diminishes gradually from the outset to the intense disease.—The quantity of albumen noted in some of the vomited fluids is much greater than has, we believe, been noted here.—(*Archiv. Gén.*, Oct.)

THE SWEATING SICKNESS IN FRANCE.

With regard to the sweating sickness which has shown itself in so many parts of France simultaneously with the cholera, MM. Lachaise and Dufay have formed the following opinions:—1. The sweating sickness appearing simultaneously with cholera, may be considered as a less intense or as an abortive condition of this disease. 2. Directly sweating sickness is seen during an epidemic of cholera, it may be predicted that the cholera will be slight and of short duration. 3. When the sweat and cholerine advance simultaneously, and pass one into the other, it is advisable to attempt to bring on the sweat, and dangerous to allow the increase of cholerine, which passes often into cholera. (*Arch. Gen.*, Sept., p. 101.)

ARSENIC IN AGUE.

M. Boudin, Physician-General at the Military Hospital at Roule, has reported most favourably of the effects of arsenic in marsh fevers. During five years quinine has never been used—no accident has resulted from the employment of the arsenic during eight years. The patients have been more rapidly cured than even by disulphate of quinine. (*Arch. Gen.*, Sept.)

AUGMENTATION OF FIBRINE BY HEAT.

M. Marchal (de Calvi) has presented a report to the Academie des Sciences on this subject. The following are his conclusions:—1. The elevation of temperature determines an increase in the fibrine of the blood. 2. The increase of fibrine in inflammations is partly due to the elevation of the temperature. 3. Fibrine is only albumen coagulated "molecularly" under the influence of heat. (*Arch. Gen*, Sept., p. 108.)

CASE OF A PULMONARY CAVITY OPENING EXTERNALLY.

By Dr. POLLET.

Cases of this nature are sufficiently rare, so that we shall be excused for narrowly scrutinizing this case, brought forward by M. Pollet, as to whether it actually is such as the title bears. An abstract of the case will satisfy us on that point.

The subject of the remarks was a girl of a very marked scrofulous constitution, about twenty years old. She has, as our Author remarks, all the rational and physical symptoms of phthisis in an advanced degree. About three months before death, a tumour, about the size of a pigeon's egg, appeared an inch beneath and exterior to the left breast; it increased gradually, and finally attained the size of the fist. From the commencement it fluctuated, and subsided under gentle and uniform pressure, afterwards recovering its ordinary bulk; movement of elevation and of subsidence, obvious to the eye and corresponding with those of inspiration and expiration, were noticed in it. This accumulation burst in a paroxysm of coughing; and a considerable quantity of pus escaped from it. The patient was visited by M. Pollet the subsequent day, who ascertained that the opening from which the pus had issued was circular, and passed beyond the body of a rib. The opening was exactly like that made by the crown of the trepan. A style passed without any resistance being offered, three fingers breadth. The matter which escaped for several days afterwards by that opening resembled that which hectic patients expectorate; besides, a breath was very distinctly perceptible at each respiratory movement. The patient expired four days after the abscess had burst, but no autopsy was permitted.

Such is the narrative of the case. With regard to it, we feel the same difficulties as the worthy reporter of the case to the Medical Society of Emulation in Western Flanders, Dr. Joseph Ossieur. The defined form of the perforation, so completely circular, of a rib, without ulceration or perforation, leads to the belief that it arose from a tubercle seated in the centre of the bone, and that it was not formed by the escape of pus from a cavity of the lung. In the cases hitherto described, of cavities opening externally, it has not been by the ribs, but by the intercostal spaces, that the pus appeared, the reason of which it is unnecessary to render. The Author, it is true, asserts, that the tumour was fluctuating from the beginning, and subsided on pressure. But these terms, "from the beginning," are actually merely equivalent to those "from the time when the tumour was perceived." And, indeed, the language in the narrative gives faith to that remark; for it had already the magnitude of an egg. What inference could then be drawn? That the tumour, at a certain period of its progress, had communicated with the pleura, but no more; and this circumstance does not point out to anything but a simple abscess in the walls of the thorax, by the tubercular destruction of a rib.

Nevertheless, did the fistulous communication with the internal organs extend beyond the sac of the pleura? Did it extend to the interior of the pulmonic tissue, which had become cavernous? On such a supposition, we must admit, with M. Ossieur, that a superficial vomica was present, exactly on the level with the osseous tubercle, and that a communication had been formed between these two purulent caverns? One circumstance is undoubtedly in favour of such an hypothesis,—the statement, to wit, of the author, that the matter thrown off by the external aperture was similar to that of phthisical sputa. We willingly give him credit for this fact on his own observation, but not without regret at his not having entered into more specific details on the stethoscopic signs. It is the only way in which the deficiency of the autopsy could have been supplied. The only sign which he narrates, the *bruit de soufflet*, ascertained after the opening of the abscess extenally, is not of a very clear character, especially apart from other signs by which it ought to be disclosed, if there had existed a pulmonary cavity communicating outwards.—*Ann. de la Société Médicale d'Emulation de la Flandre Occidentale.*

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THE MEDICAL TIMES.

SATURDAY, DECEMBER 8, 1849.

The Council of the College of Surgeons have confirmed, by a large majority, the resolution passed at a previous meeting, giving power to the Council to apply to the Crown for a modification of the Charter of 1843. The injustice of that Charter is then, we rejoice to say, at last acknowledged by the Council. For seven years it has been felt by the members. Up to the present moment, no intimation has been afforded to the Members of the College of the change in their position the proposed new Charter is to effect. It is the duty of the Council to inform the Members of the principal details of the proposed alterations, previous to making application to the Crown for a new Charter. This is the only mode of avoiding those reproaches and dissensions that were consequent on the secret negotiations by which the former Charter was obtained. But, we believe the matter rests with the Profession. If they are up and stirring, the Government cannot recommend the Crown to grant another Charter to the College, without the members (even more deeply interested than the Council itself) being acquainted with its provisions. Especially, when the Government remembers that the very act of applying for another Charter is an acknowledgment on the part of the Council, that for seven years they have inflicted a grievous injury on the great body of the members of the College.

We trust no opposition, to what we anticipated to be the liberal intentions of the Council, will be offered by such of the Fellows as have obtained their rank by examination. They must recollect that they gained their present position at a time when they knew that the almost unanimous voice of the Members of the College was raised against the Charter of 1843. Moreover, they will retain a substantial benefit, for their Fellowship diploma will bear a date anterior to those granted under the new Charter; the date of the Fellowship diploma regulating the period when its possessor is entitled to look forward to a seat in the College Council.

We cannot conclude without expressing to the Council our conviction,—and we speak from a long and intimate acquaintance with the wants and wishes of the Members of the College,—that a supplemental Charter, in which the Fellowship, without examination, is conferred only on Members of twenty years' standing, would simply stir afresh the embers of discord; while it would render some discontented, it would altogether fail to conciliate the great body. If the man who obtained the Membership at twenty-two is not deserving the Fellowship at thirty-five, we think, without taking any credit to ourselves for the gift of prophecy, we may predict that age will never render him worthy of that honour.

THE LATE MR. DIXON, OF WORTHING.

The honours of the Obituary Notice in a special Article have hitherto been reserved, in our Medical Journals, too exclusively for those members of the Profession who have filled the high places in the Corporate Bodies, or who, as Physicians and Surgeons to the great Hospitals, have reaped the profits as well as the honours of Metropolitan Practice. But we are of opinion that the more humble career of the middle-class of Practitioners would, in many instances, afford a theme as worthy, and be even more instructive and exemplary, by the virtues of manly simplicity, perseverance, single-mindedness, charity, and patient endurance of neglect or oppression, which are called into action during the avocations and struggles of the Country Practitioner. Amongst the members of this class, also, there have not been wanting men who have added lustre to their Profession by the devotion of their abilities and leisure-intervals to the advancement of some allied Natural Science. The young Practitioner, in whose memory the principles of the fundamental sciences of his Profession are fresh, and with leisure which may never recur at a later period, should bear in mind that it was a course of experiments in Comparative Physiology which led Jenner to the discovery of the simple mode of extirpating or controlling of a desolating pestilence—a discovery which has immortalised the name of the country Practitioner of Berkeley.

The successful accomplishment of the operation of tying the internal iliac artery was reserved for a Practitioner of the same class in a remote Colony, whose contributions to the physiology of the blood, respiration, and to the rational treatment of the yellow fever, and other formidable epidemics, exemplify an original and masculine frame of mind akin to that of Jenner.

Results of such importance are not, indeed, to be expected as the unfailing reward of scientific research; but the habits of observation and reflection which have led to them in the cases of Jenner and Stevens, will keep the mind in a healthy and vigorous state, and best fit it for working out the problems of disease by the bed-side. Every accession to Science reflects credit upon the Profession to which such contributor may belong. It is in this relation chiefly that we have deemed the memory of a lately deceased Surgeon, at Worthing, in Sussex, to merit the following tributary record.

Mr. Frederic Dixon was educated at Eton, and manifesting a strong predilection for Natural History and Anatomy, he was articled to Mr. Foster, the Senior Surgeon to Guy's Hospital, under whose colleague, Sir Astley Cooper, his professional education was completed, with a view to his practising the higher department of his Profession as a "Pure Surgeon." From the esteem in which his personal character, abilities, and assiduous habits of study were held by his teachers, as well as by his contemporaries and fellow-pupils, Green, Callaway, and Key, there is little doubt but that, like

them, he would have attained eminent rank in his Profession had he devoted himself to Metropolitan practice. Preferring, however, the calm enjoyments of a country residence, and that share of philosophic leisure which is commonly sacrificed in the struggles of a professional career in London, Mr. Dixon retired early to reside on some property which he possessed at Worthing; in which town and its vicinity he continued to practise up to the period of his fatal illness, in September last. His early tastes and habits of observation led him to study the Geology, and to collect the fossils of the parts of Sussex to which he was led by his professional avocations; and the peculiar skill with which he worked out the organic remains from their native matrix made his Collection remarkable for the rarity, beauty, and perfect condition of the specimens, especially of those from the chalk-pits of the Vale of Arun, and from the eocene beds at Bracklesham.

The number of new facts and valuable illustrations of the Paleontology, or ancient extinct animals, of the different geological formations, thus studied by Mr. Dixon, determined him to publish them, with figures of the undescribed fossils by the best artists whose skill he could command. He had made considerable progress in this valuable work at the period of his lamented decease; but, as an Author, he was known only by a few papers, characteristic, however, of his elegant and classical mind, on the Historical Antiquities of his neighbourhood, published in the Journal of the Sussex Archæological Society.

Availing himself of that assistance, in the determination of his fossil specimens, which the Authorities in the different classes of Organic Remains are ever ready to afford, he might himself have described his own rare and unique specimens, simply acknowledging the sources of their determinations. He might thus have appeared as the Author of "Original Memoirs" in the "Philosophical Transactions," had he been troubled by that restless vanity which makes some men clamorous for "Royal Medals," and ready to avail themselves of any prop by which their name may be lifted up to the world's gaze. But it was repugnant to the better regulated mind and feelings of Mr. Dixon, to assume the character of "Scientific Author" on such grounds. And his procedure, in reference to his projected Work, was eminently characteristic of his upright principles and single-mindedness. His desire was simply to impart to his brother geologists, in the best way, without regard to self, whatever knowledge might be afforded by the specimens which he had collected. He therefore requested the Authorities, whose aid he found requisite to determine a doubtful specimen, or to confirm his opinions of its nature, to furnish also the descriptions of such fossils, to be published under their names. Thus, the Appendix to his Work was designed to contain the description of the Fossil Corals, by Mr. Lonsdale, F.G.S.; that of the Fossil Shells, by Mr. Sowerby; that of the Echinoderms and Crustacea, by Professor Edward Forbes; that of the Fossil Fishes, by Sir Philip Egerton, M.P.; and that of the Fossil Reptiles and Mammals, by Professor Owen. Mr. Dixon reserved to himself that part of his Work which he could truly call his own—his Observations on the Geological Structure of his County, and the description of the localities, and the narration of other circumstances connected with the discovery of his fossil specimens.

Mr. Dixon had expended large sums in the numerous beautiful plates engraved for the illustration of his Work, the completion and publication of which, by some competent friend, are looked forward to with much interest by geologists, both at home and abroad.

Having occasion to visit London, to direct some improvements in the drainage of the house of one of his tenants, in the month of August last, Mr. Dixon was seized with diarrhœa on his return home; but the prompt treatment to which he subjected himself prevented it going further than an early stage of spasmodic cholera. The attack left him greatly debilitated; and premature exertion induced relapse, with modified symptoms, which ultimately degenerated into autumnal dysentery, and carried him off on the 27th September, 1849, aged 50.

He died, deeply regretted by all classes o the society in which he had mingled, as a friend or professional adviser. He had been mainly instrumental in the establishment of the Dispensary at Worthing; and the poor flocked from every hamlet, to witness and lament th passage of the mortal remains of their friend and adviser to their final resting place at his native village.

MISSTATEMENTS RESPECTING THE CONFERENCE AT THE HANOVER-SQUARE ROOMS.

We are enabled to refute numerous misstatements in reference to the proceedings of the Conference Meeting recently held at the Hanover-square Rooms, which appeared last week in the Leading Article of a Contemporary Journal. The Article commences with an eulogy of Mr. Bottomley, whom it describes as an "eminent operative surgeon." We have no desire to find fault with the gods whom our Contemporary might please to set up for his particular idolatry, and we shall at once proceed to place before our readers the particular misstatements, with their refutation, *seriatim* :—

1st. Dr. Webster is stated to have "supported the views of Mr. Bottomley." On the contrary, Dr. Webster contended warmly against the possibility of converting the College of Surgeons into a College for the whole Profession, and adhered to the principle of a new Incorporation; thus directly antagonising the sentiments of Mr. Bottomley.

2nd. It is said, that "Mr. Cartwright, of Oswestry, although his name was advertised in one of the resolutions, was not at the meeting." If this sentence be intended to convey a covert insinuation against the Council of the National Institute, it falls to the ground, for we now inform our Contemporary, that Mr. Cartwright's name was placed upon the Deputation at Mr. Bottomley's especial request; and the suggestion was assented to by the Conference in courtesy to Mr. Bottomley.

3rd. In Mr. Bottomley's letter, which forms a portion of the leading article, it is averred, that a motion that the resolution that they (the propositions) should be adopted by the meeting was formally made by Mr. Dalrymple, of Norwich." Mr. Dalrymple made some very just observations prior to the propositions having been read, or before it was known that Mr. Bottomley had them in his pocket; but he certainly did not move their adoption.

4th. It is stated, in the same letter, that the motion adopting the resolutions "was carried without a dissentient voice." Again incorrect. The propositions, as read by Mr. Bottomley and published by our Contemporary, were strongly objected to on many points, and the question was put, only on the condition that the propositions should be referred to a Committee, with power to amend them in accordance with the views of the Conference; and the resolution distinctly stated, that the "substance" of the memoranda alone should be submitted to the College of Surgeons. It was especially urged, that the propositions contained matters of opinion unsuitable for such a document.

5th. It is remarked, that "the seconding of a motion for their approval, *particularly the first proposition* by Mr. Ancell, is a most extraordinary paradox!" The wonder with which our Contemporary appears to be transfixed will be somewhat abated when he learns that this first proposition was the chief one that the Deputation were requested to strike out,—an alteration assented to even by Mr. Bottomley.

The only other gentleman connected with the Conference, whose name is mentioned in the article is that of Mr. Ross, who requires from us no justification.

It is thus very clear that although Mr. Bottomley may be an "eminent surgeon," he is not blessed with a peculiarly retentive memory; and this the world might never have discovered, if circumstances, which we will not stop to analyze, had not prompted him to assume the office of reporter for the press; and that apparently for no other purpose than magnifying his own self-importance before the Profession. We congratulate him on his success.

It would seem that the National Institute agreed to the substance of Mr. Bottomley's resolutions, in order to secure unity of action; and, in the event of the Council of the College refusing to accede to Mr. Bottomley's scheme, that they might go to the Secretary of State with increased strength for the establishment of an independent College. In this way the deliberations of the Conference at the College of Physicians might have received a new impulse and support from the proceedings of the gentlemen meeting at the Hanover-square Rooms. Mr. Bottomley's propositions go to this extent.

FEMALE EMIGRATION.

Most of our readers have probably seen in the columns of one or more of our daily Contemporaries a letter from Mr. Sidney Herbert, on the melancholy subject of the sufferings of the poor needlewomen. After pointing out the hopelessness of looking for permanent good from casual alms, and dwelling at considerable length on the present "fierce competition between money and money, between man and man," the Writer comments on the disproportion of the sexes

here and in the Australian Colonies, and says, that "a redress of this inequality is the crying want of society there, just as the redress of the opposite inequality in this country is the necessity here." He proposes—

"That a fund be forthwith raised to assist distressed females to emigrate.

"That this fund be administered by a Committee, with the assistance of the local clergy and the religious societies in the districts."

We are sure that our readers will be as ready as we are ourselves to co-operate with Mr. Sidney Herbert in carrying his benevolent plan into effect. We are far, indeed, from wishing to detract from the praise which he has awarded to the working clergy and the religious societies; but we venture to say, that the most intimate knowledge of the condition and wants of the poor will be found among the members of that Profession to which we ourselves are proud to belong; and we have no hesitation in saying, that if the assistance of Medical Men be not secured, the sphere of the proposed Committee's usefulness will not be so extensive as it ought to be.

MODE OF DETECTING CHLOROFORM IN THE BLOOD.

The fatal accidents which occasionally follow the use of chloroform, and the possibility of this substance being employed for criminal purposes, render it necessary to examine it in a medico-legal point of view.

When exposed to a red heat it is decomposed into chlorine and hydrochloric acid, and this principle enables us to detect it in the blood. Thirty scruples of this fluid at least will be required to operate on. The blood, if possible, should be examined as soon as it is drawn from the vein. It is placed in a bottle stopped with a cork, supporting a curved tube, which latter is heated by a spirit lamp. Into the end of the tube is introduced a bit of paper covered with paste, to support some iodide of potassium. The bottle is now placed in boiling water. The chloroform is volatilized, and is decomposed while traversing the heated part of the tube. The iodide of potassium, again, is decomposed by the free chlorine; and the iodine, in its turn, being set free, acts on the starch of the paste, and gives the characteristic blue colour. M. Rogsky, the author of this method, assures us that it will detect an hundred-thousandth part of chloroform in the blood. The intensity of the blue colour, arising from the action of the free iodine on the starch, will give some measure of the quantity of chloroform.

Chloroform in Veterinary Surgery.—On Monday week the operation of "firing" was performed on a large wagon-horse, while under the influence of chloroform, by Mr. Stanley. After inhaling chloroform for three minutes, the horse was insensible to pain; and Mr. Stanley commenced the operation by burning the leg with a red-hot iron to a considerable depth, in lines, from the knee to the hoof, and crossing them diagonally, fresh irons being repeatedly brought from the furnace. The operation lasted nearly twenty minutes; during the whole of this time the horse never moved his limb or evinced the slightest pain, but seemed enjoying a quiet slumber; shortly afterwards the animal ate and drank with his accustomed appetite, and walked home to his stable, totally unconscious of the severe operation he had undergone.—*Banbury Guardian.*

TYPHUS FEVER, TYPHOID FEVER, RELAPSING FEVER, AND FEBRICULA,

THE DISEASES COMMONLY CONFOUNDED UNDER THE TERM CONTINUED FEVER.

ILLUSTRATED BY CASES COLLECTED AT THE BED-SIDE.

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(Continued from page 420.)

The first of these papers contained cases which I stated might be regarded as models of typhus fever; the second consisted of a general description of the symptoms and anatomico-pathological appearances of uncomplicated typhus fever. I propose in this and the next paper to enter into

AN EXAMINATION OF THE CONDITION, SYMPTOMS, AND COMPLICATIONS ON THE VARIATIONS IN WHICH THE DIFFERENCES OBSERVED IN INDIVIDUAL CASES OF TYPHUS FEVER DEPEND.

Age—Its influence on the Course and Symptoms.—The model cases 1, 2, 3, 4, of typhus fever narrated in the first of these papers, were aged respectively 70, 49, 26, and 6 years (a), and I shall have repeatedly to detail or to refer to the cases of individuals, whose ages respectively varied between 4 and 80 years. So far as personal observation enables me to speak, without actual numbers, I cannot say that either youth or age, as such, are predisposing causes of typhus fever.

But there are certain modifications in the disease dependent apparently on age, which it will be well, in this place, to point out.

The mortality of typhus fever is much greater among individuals at an advanced period of life than before forty. It is rarely fatal till after puberty. The only cases under puberty that I have examined after death, are detailed in this paper. (Cases 5, 8.) Both, it will be observed, proved fatal after the termination of the fever, from severe local complication set up during the progress of the original disease, *i. e.*, the typhus fever.

Case 5.—Well marked mulberry rash—severe febrile symptoms—sloughing of cornea—death either on or about the twenty-second day of disease—*twenty-six hours after death* pus in right pleura—consolidation and circumscribed gangrene of right lung—no trace of intestinal or mesenteric lesion.

William L., aged 8 years, an extremely dark-complexioned child, almost a mulatto—judging from his appearance, he had some negro blood in his veins—was admitted into the London Fever Hospital under the care of Dr. Tweedie, July 19, 1847, the fourth day of disease. On his admission the skin was free from rash. I saw him twice only, and made no note of the case during life, excepting so far as related to the eruption.

The mulberry rash, which, by the termination of the first week of the disease was well-marked, and at the end of the second week scarcely rendered paler by pressure, was by the nineteenth day very pale. From the notes of a friend I am able to state that the febrile symptoms were very severe, even before it is probable that the chest affection supervened. A few days before death, an aperture was formed in the inferior half of either cornea, about two lines in length and a line in breadth; each aperture resulted from the separation of a slough. The irides protruded through the openings. The following appearances were observed on examination of the body of William L., twenty-six hours after death.—Great emaciation.

The left pleura contained a little serosity. The left lung was free from adhesions. The lung itself, pale and crepitant anteriorly, was of a deep purple colour posteriorly. Here and there, from the posterior part of the inferior lobe, small portions of pulmonary tissue could be cut, which sank in water, contained no air, and broke down more readily than natural under pressure. This lobe contained about its centre two or three small masses of tubercle just commencing to soften.

The right pleura contained about 3 oz. of fluid resembling pus, of highly offensive odour.

The right lung was closely collapsed and corrugated externally, with the exceptions to be mentioned. The pulmonary pleura was opaque and dull white. From the centre of the closely collapsed superior lobe projected a mass about the size of half a pigeon's egg, firm and smooth; an equal quantity of the mass was buried in the substance of the lung. Its smoothness contrasted remarkably with the corrugated appearance of the lobe generally. On dividing this mass, its centre was found occupied by black semifluid matter of highly offensive odour. Stretching through the semifluid matter were delicate bands of some consistence. This absolutely gangrenous portion was about 1 in. in diameter; and was distinctly bounded by a border of soft white pulpy matter, rather less than a line in thickness. The pulmonary substance external to this white line was for some extent in every direction—soft dark purplish red, contained no air, and had a smooth and uniform section. The consolidated tissue extended outwards to the pleura.

Projecting from the inferior lobe was a prominence resembling external that observed in the superior lobe; but, on cutting into it some highly offensive gas escaped, and its anterior wall collapsed. In addition to the gas, this cavity contained some semifluid black matter and gangrenous shreds; the whole bounded by a white line similar to that described as bounding the gangrenous mass in the upper lobe. The external wall of the cavity was formed by little more than the pleura. On the free surface of the latter, corresponding with the centre of the cavity, was a black spot about the size of a split pea, with well-defined outline. There was no appearance of any attempt at the separation of this black spot from the surrounding pleura. In the vicinity of the last-described gangrenous mass were two smaller masses resembling it in appearance.

The heart, liver, spleen, pancreas, and kidneys presented no deviation from their normal state.

The *stomach, small and large intestines* were healthy throughout; the color, consistence, and thickness of the mucous membrane were normal; there was no disease of Peyer's patches; the solitary glands of the large intestines were distinct, but not diseased.

The mesenteric glands were rather large, but pale and firm.

The other organs were not examined.

This case offers a well-marked example of circumscribed gangrene of the lung. There were, it will be observed, several distinct gangrenous centres. Was this the result of the pneumonia, to which the gangrene was probably secondary, having been disseminated or lobular at its outset, and only becoming generalised or lobar by the junction of the circumferences of the several centres of inflammation? The condition of the opposite lung appears to lend a colouring of probability to this view of the case. At any rate, in conjunction with case 8, it illustrates the tendency of inflammatory action set up in the course of typhus fever, to assume a low type. The sloughing of the cornea of both eyes is of interest. If any inflammatory action of the conjunctivæ preceded it I am unable positively to say. So far as memory serves me there was little or none. Pressure, the ordinary determining cause of sloughing in typhus fever, was here out of the question, from the situation of the sloughs.

With reference to the symptoms of typhus fever, this case illustrates the fact, that the eruption appears on about the same day of the disease, and continues about as long in children as in adults; that it may be very abundant in children, and well marked in those of dark skin.

But the points on which I wish to rivet the reader's attention are, 1st, that continued fever occurred in a child not more than eight years of age; 2ndly, that the fever was accompanied by abundant mulberry rash; 3rdly, that the child died on the 22nd day of disease, within a few days after the termination of the fever, *i. e.*, if the nearly total disappearance of the rash, not from sudden retrocession, but from gradual fading, be considered (as I am inclined to consider it, from an examination of very numerous uncomplicated fatal and non-fatal cases) as a mark of the termination of the fever; and yet, that in this youthful subject, affected with severe fever, which ran its full course, no trace of intestinal lesion was discovered. The gangrene of the lung terminated the life of the boy too soon after the fever for any such lesion to have disappeared, had it ever existed.

In children the rash of typhus fever is often absent. When several cases of typhus fever occur in one house, if the mulberry rash is absent from

(a) Children under six years of age are not received into the London Fever Hospital.

any members of that family, in a large majority of cases, it is the children who are free from eruption. The following observations appear to me to prove the above assertion, so far as induction from a limited number of carefully observed facts can prove it.

I have notes of 152 cases, in which more than one member of the same family were seen by myself. There was no eruption in 16 of the 152 cases. Thirteen of these sixteen were individuals whose ages varied between 4 and 15 years inclusive; the other 3 of the 16 cases were between 16 and 22 years of age. 55 of the 152 cases were less than 15 years of age; 76, *i. e.*, just half, were more than 22 years of age; 21 of the 152 cases being between the ages of 16 and 22 inclusive. Thus the rash was *present* in every individual more than 22 years of age. It was *absent* in 3, or one-seventh of the individuals whose ages varied between 16 and 22 years, while it was also *absent* in 13, or one fourth of those 15 years of age and under. I ought to remark, that of the 13 individuals last referred to, there was in reality only one whose age exceeded 13 years. Let me express more clearly this very important fact, one, it seems to me, unequivocally proved.

Suppose 100 individuals of all ages to have typhus fever, we may expect the rash to be absent

From one-fourth, or 25 of those under puberty.
From one-seventh, or 14 of those under manhood.
From none above 22 years of age.

I would here just recall to the reader's remembrance, how frequent is sore throat without scarlet eruption in adults, after exposure to the poison of scarlet fever—an analogous fact in an analogous disease.

The cases of typhus fever without rash, are, so far as my observations extend, invariably mild, never fatal, but now and then local complications arise in the progress of the fever, so mild and harmless *in itself*, by which the patient is cut off. Cases 5 and 8 are examples of such fatal complications. Case 5 also illustrated the fact, as I before remarked, that even in young children the rash may be intense in hue, and very abundant. Cases 6 and 7 will illustrate the phenomena of the disease when the rash is absent.

Case 6.—After exposure to the contagion of typhus fever, there ensued, in a child, aged 10: frontal headache——delirium—diminished strength—pale brown dry tongue—absence of abnormal abdominal and chest signs—quick pulse. Convalescence on the 12th day.

Henry B., aged 10 years, was admitted into the London Fever Hospital under the care of Dr. Tweedie, Sept. 19, 1849. A thin, rather delicate looking child, whose previous health, however, had been very good

The following notes were made, when he first came under observation on the

6th day of disease. Slept well; mind unaffected; headache little, if any; expression natural; no flush of face. His strength is slightly impaired; but, he can leave his bed unassisted with facility. Tongue moist, slightly furred; bowels confined till after a dose of castor-oil, which acted three times; a little appetite; no gurgling; no tenderness, and no abnormal fulness nor resonance of the abdomen; pulse 100; no cough; no abnormal chest signs; skin warm and dry; no eruption; that night he got little sleep, was very restless; on the 7th day the restlessness continued, and he complained of frontal headache; the tongue was dry, smooth, and covered with a yellowish brown fur; he passed two stools; he had little sleep at night, was restless and slightly delirious; the mind continued to wander at intervals during the following day. His pulse never exceeded 108, and his bowels continued regular throughout; he was convalescent on about the 12th day.

Several members of this child's family were admitted with well-marked typhus fever. His sister, aged 6½ years, was received into the Hospital at the same time; her illness had commenced on the same day, and she was also convalescent on from the 10th to the 12th day of disease. This little child had marked, but scanty, mulberry rash. The spots were present on the 6th day, at which time the notes of her case were first taken; they had nearly disappeared on the 10th day, when the last notes respecting them were made.

The treatment in these cases was simply expectant. Castor oil was administered when the bowels were confined; the hair removed and cold applied to the scalp, when the pain in the head became severe, or delirium supervened. A large, well-ventilated apartment, fresh air, a cool, but not cold, atmosphere, quiet, abstinence from solids, and a free supply of cold water, milk and water, and weak broth, these are the remedies on which, in a large majority of cases of typhus fever, the judicious practitioner relies for the safety of his patient.

In no disease is the advantage of refraining from meddling more clearly displayed than in typhus fever. In no disease is the prompt use of powerful remedies more clearly indicated than in typhus fever. It is in determining when to act, and when to do nothing, that the skill of the physician as a curer of disease, or, rather, with reference to fever, as an averter of death, is shown. Interfere, bleed or stimulate, when nothing should be done, and the patient, but for you safe, is lost. Refrain from depletion or withhold wine, when the one or the other is required, and the patient sinks into that grave from which judicious treatment might have saved him.

Case 7.—After exposure to contagion from persons labouring under typhus fever, with mulberry rash, there ensued, in a child, aged 7: frontal headache—disturbed sleep—heaviness of expression—debility—confined bowels—loss of appetite—quick pulse—hot skin—no rash—convalescence on the 13th or 14th day.

Sarah M., aged 7, was admitted into the London Fever Hospital November 2nd, 1848, under the care of Dr. A. Tweedie. A delicate looking, fair child, who had been ill three days only before she came under observation.

The following were the symptoms at that time:—She had slept several hours the preceding night, but moaned much in her sleep; she complained of much headache, which she described as confined to the forehead; was quite sensible, and remembered the date of her entrance into the Hospital; there was some heaviness of expression; the conjunctivæ were pale, the pupils natural, but she shunned the light; there was no flush of the face. She appeared very weak, but turned in bed with facility; the tongue was moist, slightly furred white; there was much thirst, no appetite, and no stool the preceding 24 hours; she swallowed without any difficulty; the abdomen was somewhat full and resonant, but not tender; she complained of a little pain in the belly; the pulse was 108, weak; there was trifling cough, but no abnormal chest signs; the skin was hot and dry; there were no spots.

There was little change in the symptoms during the progress of the disease,—excepting that the skin became moist, till the 13th or 14th day, when her appetite returned and she was noted to be convalescent.

In this case, too, as in all such cases it ought to be, the treatment was medicinally expectant. The hygienic conditions necessary for the safety of the, in itself, mild case of typhus fever being rigorously observed, *i. e.*, the child was placed in a large, uncrowded apartment, plenty of fresh air was admitted, the temperature kept at about temperate, her linen frequently changed, and solid food withheld, while her thirst was slaked with as much water as she chose to drink.

The whole family, of which No. 6 was one, were, with the exception of the mother, who had "spotted" typhus five or six years before, and a child aged 4, admitted into the London Fever Hospital between Nov. 1 and Dec. 20. The ages of these parties were respectively 14, 19, 20, 21, 22, 29, 60; in all seven the mulberry rash was well marked. The youngest child I visited at home, and found suffering from symptoms similar to those under which her sister laboured when the foregoing notes of her case were taken. She, too, had no spots; or if she had, they were too faintly marked to be seen in the dark room in which these people slept. Like her sister, she had a very mild attack.

Case 8.—After exposure to the contagion of typhus fever, there ensued, in a child aged 10——Faintly marked, scanty mulberry rash—delirium—debility—moist and white tongue—confined bowels—quick pulse—rapid respiration—dulness of left lung, commencing inferiorly—cavernous breathing—gurgling—pectoriloquy, first at inferior angle of left scapula—fetid sputa—hæmoptysis—death on about the fourty-fourth day of illness. *Twenty-nine hours after death.*—Tubercles in both lungs—consolidation of intervening tissue of left lung—enormous cavity in left lung—tubercles beneath intestinal mucous membrane and in mesenteric glands—tubercles in the spleen—opacity and increased vascularity of pericardium.

Martha A., aged 10, was admitted into the London Fever Hospital Oct. 3, 1848; a dark-complexioned, delicate girl, rather thin. Her mother, aged 50, brother, aged 16, and sister-in-law, aged 29, were admitted between Oct. 3 and Nov. 4 with typhus fever. All had well-marked mulberry rash.

As nearly as could be ascertained, she had been ill nearly a fortnight when first seen by me, Oct. 4. She had kept her bed since the 25th of September; *i. e.*, I saw her on the 10th day after she took to bed; at that time, *i. e.*, about the 14th day of disease, the following particulars were noted:—

She had passed a very restless night, and had but little sleep. She had left her bed several times while delirious. At the time of the visit she seemed quite sensible, said she had no headache, but complained of vertigo in the erect position. There was slight heaviness of expression; the complexion was muddy; the cheeks covered with a dusky flush; the conjunctivæ were pale. With the exception of a disagreeable taste the special senses were in their normal state. Although, while delirious, she left her bed unassisted, she was, when I saw her, quite unable to leave it.

The tongue was moist and white; there was considerable thirst, but no appetite; the bowels were confined; there was no tenderness, pain, abnormal fulness, resonance, nor gurgling of the abdomen. The pulse was 100, the respirations 36; the nostrils dilated largely during inspiration; there was trifling hacking cough. She complains of a sharp pain, increased by deep inspiration under the left mamma, which "took her breath away." There was a little sonorous, and much mucous râle over the anterior surface of the left side of the chest; posteriorly below the angle of the scapula there was abundant fine crepitation and some friction; at this latter part, also, there was slight want of resonance on percussion. The skin was hot and dry, and stated, in my notes, to be free from spots; but on the following day I wrote thus:—"On the abdomen and back there are seen, on careful inspection, a few irregular dusky pink spots, which fade on pressure. As these spots are very pale, her skin very dark, and there are numerous flea-bites over the same parts, they might have been overlooked yesterday." On the same day, *i. e.*, the second of observation, the 15th of illness, the cough had increased in severity; it retained its short, hacking character. There was now positive dulness from the angle of the left scapula downwards, and the breathing was tubular in the same situation; from the angle to the spine of the scapula there was abundant fine crepitation. On the 16th day the pulse was 96; the respiration 30; the cough continued, and was accompanied, for the first time, by the expectoration of some purulent fluid, coloured green, from the admixture of vomited matter; the quantity, in consequence of this admixture, could not be ascertained; the mixed fluid was highly offensive; the dulness had reached the spine of the scapula. About the angle of that bone there was abundant moist crepitation, so large as to amount almost to gurgling. At the same spot there was cavernous breathing and pectoriloquy; above there was fine crepitation. Anteriorly, on the same side, there was dulness and fine crepitation as high as the inferior border of the third rib; there was respiratory fremitus and friction sound over the same extent. She expectorated about 3 oz. of nearly homogeneous offensive purulent fluid (examined microscopically) on the 18th day. On the 22nd day the following note was made:—"The sputa, which have continued purulent and highly offensive, were this morning streaked with blood; about half an ounce of rather dark blood has just, 1 p.m., run from the mouth; no cough preceded or accompanied this discharge. On the 28th day there was dulness from the extreme base of the left lung to the spine of the scapula posteriorly, and to the lower border of the second rib anteriorly. There was no enlargement of that side of the chest, and the inter-costal spaces were well marked. The vocal fremitus was greater on the left than on the right side. From near the base posteriorly to near the middle of the scapula, there was gurgling, cavernous breathing, and whispering pectoriloquy; there was large mucous râle as high as the spine of the scapula; anteriorly and laterally there was friction and submucous râle as high as the lower

border of the second rib. By the 23rd day the dulness was complete over the whole posterior surface of the left side, and the gurgling and cavernous breathing had reached the spine of the scapula. There was some friction over the lower part of the *right* scapula. She had expectorated from 10 to 12 ounces of extremely fetid pus, mixed with a considerable quantity of dark frothy blood during the preceding twenty-four hours; the nurse stated that till 4 a.m. the expectorated matter was yellow: that while coughing at that hour, much dark frothy blood was suddenly ejected from the mouth. At the time of the visit the expectorated matter was muco-purulent, stained with blood. On the following day she expectorated from 8 to 12 ounces of purulent fluid, containing but little blood. After this the sputa continued very abundant, but became thin, watery, and of a pale dirty yellowish colour, with a little thick purulent sediment.

The pulse, 96 till the 19th day, then rose to 108, and on the 27th was 120; at this latter date the respirations were 52 in the minute. Delirium continued at intervals from her entrance till her death. She was the whole time extremely restless, and often fretful, so that often it was impossible to examine her chest. Towards the last she suffered much from night sweats and hectic flushes. The tongue became covered with a brown fur posteriorly about the 19th day. The expression of, as well as the actual prostration at the same time, increased considerably. The bowels, which acted regularly till the 36th day, then became much relaxed; at the same time she began to complain severely of griping pain in the abdomen. These symptoms continued till her death, on about the 44th day of disease. On the 38th day the belly was full and resonant, and continued so till the afternoon preceding her death, when the last note was made.

She died at half-past seven a.m., Nov. 2nd, *i.e.*, 44th day of disease.

The body of M. A was examined twenty-nine hours after death. Cadaveric rigidity was tolerably well marked. The ends of the fingers were slightly enlarged; the nails curved. There was slight discoloration of the posterior surface of the trunk. The abdomen was slightly convex; the emaciation extreme.

Head.—A considerable depression of the internal table of the frontal bone was found, and, on inquiry from the mother, was traced to an accident some six or seven months before the death of the child. (See last Vol. of the "Transactions of the Pathological Society of London.") The membranes, excepting at the spots corresponding to the injury, and the substance of encephalon were healthy in color, consistence, &c.

The *pericardium* contained about 1 oz. of turbid yellow serosity, in which floated a few shreds of lymph. The serous membrane itself was dull, white, and opaque, and there was abnormal vascularity of the parietal pericardium corresponding to the left pleura. There was no lymph adherent to the pericardium proper or parietal.

The *heart*, both substance and valves, was healthy.

The *larynx* and *trachea* were normal in appearance.

The *right pleura* contained about 2 oz. of yellowish serosity.

The *right lung* collapsed but slightly. There was a little recent lymph over the posterior part of the inferior lobe. The posterior surface of the lung was mottled with deep purple patches, here and there separated from each other by well-marked, opaque, white, interlobular septa. In the substance of the apex and anterior part of the superior and middle lobe were felt numerous irregularly nodulated, solid masses. On section these latter were found to be caused by collections of semi transparent grey granulations, and opaque yellow tubercles. Scattered between these masses were numerous solitary, minute, grey, semi-transparent granulations; the tissue around the tubercles was crepitant and apparently healthy. When the posterior part of the lung was divided, the pulmonary tissue corresponding to the purple patches described as seen externally, was non-crepitant and saturated with bloody serosity; this condition did not extend for more than from a third to half an inch into the pulmonary tissue.

The *left lung* was very firmly adherent to the pleura posteriorly, and as low as the upper border of the third rib; anteriorly from that point downwards, the anterior part of the lung was separated from the costal pleura by a collection of highly offensive dirty brown fluid, circumscribed by lymph. Opening into this cavity were several small apertures communicating through the under surface of the upper lobe, with an immense cavity reaching from near the base to near the apex of this lung, extending through the division between the two lobes. The posterior wall of this cavity was extremely thin, a mere film, about two-thirds downwards from the apex. The cavity contained a fluid resembling that in the pleura, but somewhat more purulent. The walls of the cavity were extremely ragged; large masses of sloughy matter hanging loosely from them. The pulmonary tissue yet undestroyed was stuffed full of tubercles, and numerous opaque yellow tubercles of cheesy consistence studded the walls of the cavity.

The *bronchial glands* were somewhat enlarged, and contained much dull yellow tubercular matter.

The *liver*, *pancreas*, and *kidneys* were healthy in appearance.

The *spleen* was studded with tubercles.

The *mesenteric glands* were enlarged, especially in that part corresponding to the middle of the small intestines; they varied in size from a pea to a small bean, and, on section, were found to be studded with small, opaque, yellow tubercles.

The *pharynx*, *œsophagus*, *stomach*, and *duodenum* were normal in all respects.

Beneath the mucous membrane, covering one of Peyer's patches, about eighteen inches from the commencement of the *jejunum*, were numerous distinct, firm, slightly elevated, opaque, yellowish spots, the next two or three patches descending the gut were similarly affected; then came six or seven perfectly healthy patches, and then one slightly diseased. The remainder, to the ileo cæcal valve, were normal in appearance. The whole mucous membrane of the *jejunum* and *ileum* was pale and natural in color and consistence.

The *large intestines* appeared healthy.

The urinary bladder, uterus, and ovaries were not examined.

A few of the mesenteric glands were studded with small, opaque, yellow tubercles.

The facts in this case especially worthy of attention are—

1st. Those respecting the fever. The patient was of that age when the intestinal affection is common, yet an examination after death showed that she had no such lesion (a). The illness was prolonged by local complications till the 44th day, although the fever, properly so called, terminated on about the 14th day. It is of importance, in all cases, to fix the date of the termination of the fever, for no greater error can be committed than to confound the length of the fever with the duration of the illness—to use the two expressions as synonymous terms. The intestinal lesion, diagnostic of typhus fever, was absent, although the eruption was very scanty and imperfectly marked; thus, in conjunction with other cases detailed by myself in these papers, rendering untenable the opinion first advanced in a most able article on "Continued Fever," in the 12th Volume of the *British and Foreign Review*, and subsequently adopted by Dr. Watson, that the skin eruption and the intestinal lesion are "supplementary of each other."

2nd. Those respecting the chest affection.—I can only just allude to a few of the many points of interest this case offers for consideration.

What was the order of sequence of incidents in the case.

1st. Tubercles.—The child was delicate-looking and thin, and had been for some time before her present illness suffering from cough. It is true, the ordinary signs of the presence of tubercles in the adult were not detected in the lungs on her admission; but then the elasticity of the thoracic parietes of a child, the pretty equal amount of the tubercles probably existing in the two lungs, precluding comparison, as well as their diffusion at considerable intervals from base to apex, in minute masses, might have rendered their detection impossible, (b) and certainly would have rendered it highly improbable, in a case of fever, when the attention was only secondarily directed to the chest.

(a) When treating of typhoid fever I shall refer to this case, as illustrating the difference in the appearance of tubercular and typhus deposit in the agminated glands—a difference which, in the majority of cases, forbids their being confounded by a tolerably experienced observer.

(b) "Miliary tubercles and grey granulations are made manifest by roughness of the respiratory murmur, or by prolonged expiration with clearness on percussion."—Rilliet et Barther. "Maladies des Enfants," Vol. iii. 247.

2nd. Typhus Fever.

3rd. Pleuro-pneumonia.—This was probably induced by the exposure which the child experienced in coming to the Hospital; the inflammation commenced in the situation usually occupied by lobar pneumonia of the *left* lung in children, *i.e.*, at the base.

4th. The rapid deposition of fresh tubercular matter.—This was *proved* by the large amount found in the portions of pulmonary texture, undestroyed at the time of death—an amount which must, independent of any inflammatory pneumonic consolidation, have caused absolute dulness of the left side of the thorax; and certainly no marked, even comparative, dulness existed on the child's admission.

5th. The formation of a cavity in the inferior lobe of the left lung—due, probably, to the softening down of tubercular matter, as well as to the formation of pus, and gangrene of the pulmonary tissue; in fact, a tubercular gangrenous abscess, and then the sudden opening of this abscess into a bronchial tube.

6th. The rapid extension of the cavity by a kind of phagedenic solution of its parietes.

7th. The formation of a communication between the cavity in the lung and the pleural cavity.

8th. The extension of the inflammatory action from the left pleura to the pericardium; next to rheumatism and kidney disease, the most frequent cause of pericarditis.

The rapid formation and extension of the cavity is matter of extreme interest. The physical signs were so well marked, that the exact date of the first formation of the cavity can be unequivocally fixed. The pneumonia, which was lobar, had produced but imperfect consolidation on the 11th day of disease; perfect consolidation on the 15th day, as shown by complete dulness and bronchial breathing; and on the 16th day there was indubitable evidence of the existence of a cavity communicating with a bronchial tube in the inferior lobe of the left lung. In twenty days from the commencement of the pneumonia this cavity had destroyed the greater part of the lung reaching from base to apex of the organ. The hæmorrhage was doubtless owing to the rapid extension of the cavity. The destruction of tissue was too rapid to allow of closure of the vessels. Hæmorrhage is much more common from gangrenous than from tubercular cavities.

[To be continued.]

REVIEWS

A Practical Treatise on Inflammation of the Uterus, &c. By JAMES HENRY BENNET, M.D., Physician Accoucheur to the Western General Dispensary, formerly House Physician to the Hospitals—St. Louis, La Pitié, and La Salpetrière, Paris. London: Churchill. Pp. 527.

Cadmus, it is reported, invented letters; but who discovered the art of book-making remains to this day a masonic mystery. It was probably coeval with the art of conjuring; at any rate both are intended to impose on the credulity of mankind. The famous bottle trick of Houdin is a respectable wonder; but books constructed out of other men's wits, and of paragraphs tacked together like cheap garments are an abomination. Yet they have their uses and appliances to boot. They are oftentimes monster advertisements of non-existent professional skill; they are sometimes stepping-stones to medical practice—symbols of vanity—melancholy evidences of exaggerated egoism.

"'Tis pleasant, sure, to see one's name in print;
A book's a book, although there's nothing in't."

But a book may have a great deal in it; it may contain, like a dust-cart, a vast quantity of rubbish, and loose, objectionable, and offensive matter; it may be like a shop in Rag-fair—such as old Fagan might have kept; be furnished with stolen apparel, and, as old Burton has it, one would rather a man

should steal one's clothes than one's ideas; or it may be a refectory of indigestible condiments and cooked up sophisms, which may so far impose on the gullibility of a weak intellect as to "take the reason prisoner," and make our very eyes "the fools of 'tother sense." "Go," cries King Lear, in his distraction, "get thee glass eyes, and like a scurvy politician, seem to see the things thou dost not see." But, no! "Get thee a speculum," cries the philosophic accoucheur of the day; and we fancy we see Lucina herself gently withdraw the curtain of female modesty, and reveal Dr. James Henry Bennett, ex-house Physician (*par concours*) of the Hospitals Saint Louis, Notre Dame de la Pitié, and Salpetrière, seated by the bedside of one of Juno's child-bearing daughters, propounding to her, with all the dignity of a philosopher, and with something of the fascination of a magician, the propriety and the "absolute necessity" of her submitting, not only to a manual, but to an ocular examination. From the depths of a philosophic side-pocket a shining speculum appears—a Lord Rosse's telescope in miniature—and on bended knees the exploration is commenced. Astronomers have clearly shown,—for which see Somerville, Humboldt, or more recently the Physical Atlas of Petermann and Milner,—that stars exist in the infinite regions of space, whose light, albeit moving at an inconceivable rate, has not yet reached the earth; and, in like manner, our Author discovers in his vestiges of creation, traces of ulceration which, if they not yet are, *will be*. Nay, with a truly seer-like eye, he discovers that the whole pathology of the uterine system revolves upon the axis of inflammation. "Here," quoth he, "I have endeavoured to demonstrate the important fact, that inflammation is the key stone to uterine Pathology, and that, unless the phenomena which it occasions be recognised and taken into consideration, all is doubt, obscurity, and deception." (Preface vi.) The doubt we comprehend—the obscurity we perceive—the deception we believe in. How otherwise could the discovery have been so often made in the history of obstetrics? Ideas in two individuals may be mesmerically synchronous; but, how any two heads phrenologically different could originate and contain the self-same and identical proposition, is a psychological mystery. The notion, then, of inflammation being the *tertium quid* of uterine pathology having got into the cerebrum—perhaps the cerebellum—of Dr. James Henry Bennet, off he goes in a hard canter, like Dr. Dove on the celebrated horse Nobs, (for which, see Southey's "Doctor" and not *Bell's Life*,) to explore what he innocently believes to be a *terra incognita*—a new and untrodden field of science. "Great son of Pilumnus!" exclaims my Uncle Toby, addressing Doctor Slop, "What canst thou do? Thou hast come forth unarmed—thou hast left my tire-tête, my newly-invented forceps, my crotchet, my squirt, and all my instruments of salvation and delivery behind thee. By Heaven, they are at this moment hanging up in a green baize bag betwixt two pistols at the bed's head! Ring! Call! Send Obadiah back upon the coach-horse, and bring them with all speed." In the present day, my Uncle Toby would have added to his stores the famous speculum of Dr. James Henry Bennet,—the dioptra of the ancients.

When new instruments of this description come into fashion they resemble playthings in the hands of children. They are veritable toys. When the stethoscope was first introduced there was not a tyro in the Profession who did not carry one, like a bottle-imp, in his pocket; and young ladies and old, hysteric and dyspeptic, allowed the mystic tube to explore clavicular, scapular, axillar, epigastric, hypogastric, lumbar, and even pelvic regions. But the science of Acoustics is one thing, that of Optics another:—

> "The chariest maid is prodigal enough
> If she expose her beauty to the moon.—"

And delicacy, that womanly feeling which we believe to be inherent in every virtuous breast, suggests an instinctive objection to the indiscriminate use of the speculum, which we are rather inclined to commend than condemn. But not so Dr. James Henry Bennet. He has had a Parisian insight into these matters; he has had a large and prolific experience as an Interne among the Magdalens of the Maternité, the Notre Dame de la Pitié, the Salpetrière, and the Charité; he has held communion with the saints whose names are enrolled in the canonization of the Grand Livre of the Police—the nymphs of the pavé eulogized by Eugène Sue and Paul de Kock, and whose statistics have been so ably analyzed by Parent-Duchatelet; he may have "assisted" at the balls where the *soi-disante* "Reine Pomarée" was the presiding deity, and he has come, most incontinently, and, as we believe, most erroneously, to the conclusion, that our fair countrywomen will always and unhesitatingly submit to this indecent mode of investigation.

> "I have often been told," he observes, "that females in this country will not submit to treatment when afflicted with uterine disease. I can only say that I have not found this to be the case in my own practice. I have met with many objections, but never with a decided refusal, when I have stated that an examination was imperatively necessary." (Pref xiii.)

We would feign ask, does Dr. H. Bennet limit his speculum practice to cases where the symptoms are obscure, and diagnosis difficult? or does he make a free and easy application of the instrument in cases where it might be dispensed with? We lately heard of a West end speculum Doctor, who examined one morning a mother, her eight daughters, and her *cook!* pronounced them all to labour under inflammation; and, accordingly, cauterised the whole family *secundem artem*. And a story is now rife and running of an unfortunate old lady, who, by mistake going to a wrong house, fell into the hands of a physician, who, *heigh-presto*, introduced his everlasting speculum and cauterised her os uteri for a slight bronchitis,—probably as a counter irritant; and well he succeeded, for the unfortunate patient was obliged to use a water cushion for the next week.

But to the book itself. We have here a goodly volume of 530 pages; and without offending publisher, printer, paper maker, or printer's devil, (whom we reverence,) it is wonderful to think how many pages can be stitched together without a single ray of original thought, or retrospective experience, to throw a gleam of light upon a solitary sentence.

The work is divided into fifteen lengthy chapters, and an Appendix. After some preliminary remarks, partly of an historic character, and referring to the state of medicine in the Middle Ages, we are introduced, in Chap. II., to some A B C details, as to the anatomy of the uterus, with an engraving of it and the lateral ligaments, reduced from Quain's plates, and of course, very entertaining to the advanced reader. At Chap. III. the Author beginning his task of book-making, favours us with a description of inflammation of the uterus (metritis) in the non puerperal state. The sketch, indeed, is avowedly a fancy one; and chiefly remarkable for the following strange description of pain over the affected organ:—"The most prominent local symptom is severe pain, situated deeply in the hypogastric region, above and behind the pubis, *irradiating* into the ovarian region and down the thighs. The cutaneous surface of the inferior abdominal region, *from the umbilicus to the groin*, is sensitive to the touch; but slight pressure on the abdominal parietes does not very much exacerbate the deep-seated pain. On examining digitally," &c. *Ohe! jam satis.*

"Chronic metritis," in the unmarried portion of the female population, next comes under notice—a disease, we need scarcely say, quite as rare as its predecessor. Dr. Bennet, however, thinks otherwise, and that because, on entering a room of a patient, he can tell,—"Dogs have such intelligent noses," as Lord Byron says—"by the physiognomy alone, if menstruation is impending or has commenced." Nay, he is quite ready to tilt a lance with other writers on this and all similar subjects. Though Boivin, Duges, Rigby, Waller, Ashwell, and a thousand and one other writers on obstetrics, may all combine to differ with him, he preserves his own opinion unshaken. Dr. Ashwell, in his immense field of observation, for instance, finds the average of ulceration of the cervix, just two per cent., while our marvellous Author (p. 20) startles us with the appalling fact, that out of 300 similar cases that came under his care, not less than 222 were thus affected—just 74 per cent.!

Chronic metritis occurs, so says Dr. Bennet, in 9 cases out of 10, in the *posterior wall* of the uterus; it is difficult of cure, and very liable to be confounded with cancer,—all, no doubt, striking novelties. A careful digital examination is of course the one thing needful, and the speculum the grand catholicon.

Heigho! the wind and the rain!—The subject of uterine catarrh follows, and an immensity of hair-splitting, on the *diagnosis* of internal metritis. Continental writers have written a great deal on the matter; but they are "evidently quite ignorant," we are assured—oh, unkindest cut of all!—"of the normal existence of the internal sphincter;" they cure with their injections, sundry uterine affections, it is true, but they do not, it seems, know *how* they do it, without exposing every one of their very fortunate patients to a specular examination.

Next comes "Inflammation of the Uterine Appendages;" and twenty-four mortiferously stupid pages are taken up with the consideration of this form of pelvic inflammation, with an exposition of the fact, that it is usually—except of course by Dr. Bennet—nay, always and ever, confounded with iliac abscess. Directions for diagnosis are pointed out with a rare idea of the very neglected education of the reader, and the ignorance of Gooch, Clarke, Churchill, Ashwell, and others also, as usual, very commendably set forth.

Still Dr. Bennet is a prophet, for at page 85, the more ignorant portion of the Profession are informed, that "the peritoneum in the female, after covering the posterior surface of the bladder, is reflected on the uterus, covers the anterior surface of the body of the uterus, its posterior surface, and is then again reflected on the rectum. As it passes from the anterior to the posterior wall it forms two wide folds,"—yes, two wide folds—"and these contain the Fallopian tubes, the ovaries, and the round ligaments;" moreover, that these two folds are separated from each other by cellular tissues liable to inflammation, with one or two other equally notable revelations. What a wonderful man that Dr. Bennet, to throw such light on so difficult a point!

Much prosing follows on the more marked puerperal form of the disease, where we have, it is true,

little room for discoveries, the writer himself being scarcely able to separate it from iliac abscess, properly so called.

After so much verbiage, we reach page 86, where the real matter of the book would seem to begin — *Inflammation and Ulceration of the Uterus*, and this we find under the five following forms:—In the Virgin—In the Pregnant Female—During and after Abortion and Parturition—In Advanced Life—And as as a Concomitant of Polypi and Fibrous Tumours. These are all treated *seriatim*.

In the first division of the subject, the character of the cervix uteri in the virgin is pointed out with much minuteness. Though previous to menstruation the uterus lies dormant, after that period a different state of things obtains. Owing to an extreme sensitiveness of some females at this halcyon epoch, ulceration and inflammation, Dr. Bennet assures us, often follows, in a *few days* or weeks, this change of condition; and when such is the case, they mostly remain sterile. This, we take it, for obvious reasons, is a point difficult to establish one way or another. When conception takes place, we quite agree with our oracular friend, other causes of inflammation come into action, and a new life, very often a troublesome one, dawns on this very essential part of the female œconomy.

Ulceration, of course, follows inflammation, and is treated with a world of minuteness. "The secretion from an ulcerated surface," we are informed, "is purulent." And yet, in practice, need we say, every conceivable admixture of mucus and pus is met with, together with the white creamy secretion, the result of congestion. The glairy mucus, so like the white of egg, that every one has seen in the every-day speculum examinations of our Hospitals, and ordinarily ascribed to a cachectic condition of the uterine organs, Dr. Bennet is more than usually mystical about, and at once puts down to inflammation; a patulous condition of the os uteri, with this peculiar secretion, in his opinion, being pathognomic of inflammation of the *cavity* of the cervix.

Extension of Inflammation to the "vagina and vulva," attended with intolerable itching to the "rectum and bladder," &c., next follow—for what earthly purpose besides book-making, we are at a loss to divine. Sterility, we are again assured, as something very original, arises also from a similar cause; also uterine inertia, or absence of all sexual appetite, and Dyspepsia, with its Pandora's box of all shapeless evils. Dyspepsia, of course, is the result of the re-action of an ulcer of the womb on the par vagum, and to be treated accordingly. Nay, to such an extent does our Author carry his position, that in young ladies who disorder their stomachs with jam tarts and such peccable eatables, even though they may not confess the impeachment—so continually does Dr. Bennet modulate on one string—"that the very existence of severe disorder of the digestive functions in a young female, always induces him to question narrowly the state of the uterine functions." A speculum examination, of course, very properly supersedes the old black draught and blue pill.

Our Author also finds the liver enormously enlarged from disease of the neck of the uterus; the upper portion of the colon, the several thoracic organs, the organs of the circulation:—nay, he has repeatedly seen patients debilitated "by ulcerated inflammation of the cervix attacked with pulmonary consumption."

This form of disease, our Author further enlightens the Profession, is the source of various cerebral aberrations, produces lowness of spirits, amaurosis, deafness, nightmare, and hysteria; in short, every ill to which poor feminine flesh is heir.

Now, in all this, we must, for ourselves, commit so flagrant heterodoxy as to say, that we think our Author too often puts a *post hoc* for a *propter*. We have lived through Broussaism, and the "ism" of old John Abernethy—Plessimetry, Electro-Biology, and a score of other rocket-like systems; and our recollections are not the most favourable of things that prove too much. That all our great writers on obstetrics should be so ignorant as Dr. Bennet would have us believe, is another matter to which we must beg leave to demur.

At page 159, our Author buckles on his armour for fresh encounters, and goes back to begin, if we may be permitted a Hibernianism. We have, accordingly, inflammation and ulceration of the neck of the uterus again in the virgin female, and its connexion with leucorrhœa, dysmenorrhœa, amenorrhœa, all pointed out quite to his own satisfaction; details which, in the usual Sir Oracle's mood, he tells us, he is quite aware will be read with considerable surprise, even by those practitioners who have paid the most attention to uterine diseases.

We have next some ninety or a hundred pages, chiefly occupied with cases, every word of which we have read, but in which we see nothing of novelty. At page 228 we are assured, that where hæmorrhage exists after delivery, there will be *nearly always* found some inflammatory and ulcerated lesion of the cervix; that, in cases of abortion the same state of things obtains, of which the ordinary practitioner is profoundly ignorant.

At the "critical" period of life of course our Author meets with ulceration. The atrophy of the uterine system at this epoch no doubt exerts a salutary influence; yet Dr. Bennet seems to feel some very peculiar compunction for "that large floating population of women" who have, up to this period, neglected speculum examination—"stranded on the shore of the stream of life," poor things, without ever dreaming of the fanaticism of our French friends.

Ulceration of the cervix accompanying polypi and inflammation of the vagina and vulva, form the subject of Chapters X. and XI. The latter affection, he assures us, often leads to ulceration of the cervix; not unfrequently, also, to a suspicion of syphilis. Any one, indeed, who has attentively studied among the heaps of cases of this kind in Paris, Berlin, and other continental cities, must at once recognise this affection. An ulcer, possibly as large as a franc piece, on the inside of the vulva, which nothing can heal, and which in many instances gives no uneasiness to the patient herself, is too often we think confounded with something of a more formidable character—at least in this country—not to speak of the true syphilitic sore itself.

Chapter XII. is another recapitulation of the whole matter, showing the dependence of all possible female disorders, including hysteria, abortion, prolapsus, anteversion! retroversion!! and retroflexion!!! on NEGLECT OF THE SPECULUM. We must spare the reader, however, these 40 pages, syphilitic ulceration bringing us to page 312; where, however, some practical observations as observed in the Paris hospitals, make amends for the many previous absurdities. The rarity of the true Hunterian chancre first pointed out, Dr. Bennet goes on to demonstrate that many others considered not very different, are in reality secondary sores, others merely inflammatory, requiring no specific treatment.

The succeeding part of the work treats of cancer of the uterus, that fertile source of contending opinion and discussion. We cannot see much of originality in it. Sundry wooden men are put up to be knocked down, and the reader is left in as much doubt as before. Montgomery, and Ashwell, and Clarke, are shown, as usual, to know nothing of true cancerous disease, which Dr. Bennet thinks is only to be managed in his own particular way. The concluding chapter winds up with some general directions on treatment, addressed to his more elementary friends, which however useful, we must pass over, since we are exceeding our limits and our readers' patience, and shall require an ignis fatuus from Mephistopheles, or from Dr. Bennet's own speculum, to guide us back again. The volume before us adds nothing to our theoretical or practical knowledge of uterine diseases. "Young man," said Dr. Parr, addressing a conceited Oxonian, "if you knew *nothing*, you would soon learn *something*;" and if Dr. Bennet would forego his Parisian experience, and lay his speculum aside, he would, by diligently studying the writings of his contemporaries, derive a great deal of information which might prove, in the fortuitous course of his obstetrical practice, useful both to his patients and to himself.

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

November 27, 1849.

Dr. Addison, President, in the chair.

ON THE SECTION OF THE TENDO-ACHILLIS IN SOME CASES OF FRACTURE OF THE BONES OF THE LEG.

By CAMPBELL DE MORGAN, Esq., Surgeon to the Middlesex Hospital.

After referring to the operation of tenotomy, as practised not infrequently on the Continent in cases of fracture, when unusual difficulty is experienced in reducing and keeping quiescent the fractured ends of a bone, the author related the following cases illustrative of this practice, where the tibia and fibula were the seat of injury, and the tendo-achillis that of the operation. He believes they are the only instances thus treated in this country. The first case is furnished by Mr. Shaw, in whose practice it occurred:—W. S., aged 40, was admitted into the Middlesex Hospital on Feb. 12, 1847, having fallen down stairs in a state of intoxication. Both bones of the leg were broken, and the fracture of the tibia extended through both malleoli, the foot being twisted outwards. Violent spasms of the muscles frustrated all attempts to keep the fractured extremities of the bones in apposition; the slightest movement brought on this spasmodic contraction, which extended to all the muscles of the limb, so as to cause great distortion of the foot, and render the skin over the base of the tibia extremely tense. All the symptoms continuing unabated on the following day, and the suffering of the patient being considerable, Mr. Shaw determined on dividing, in the usual way, the tendo achillis, which was very tense. After this all the difficulties entirely ceased, and no further trouble was experienced in the treatment of the case. The second case occurred in the author's own practice. The patient was a female, aged sixty-six, of drunken habits, and was admitted into the Middlesex Hospital in March, 1849. She had been knocked down by a cab, and both bones of one leg were fractured a little above the ancle. The symptoms and condition of this patient were very similar to those of the last, and every mechanical and therapeutic measure which could be suggested to relieve the spasms was tried in vain. The author divided the tendo achillis on the ninth day, with instant relief to the suffering of the patient, and immediate removal of all untoward symptoms. In less than a month, the chasm left after division of the tendon, which was not very great, had disappeared; and a fortnight subsequently, she was able to walk on crutches, and the foot was free from deformity. After some general remarks on the value of the operation in the foregoing cases in re-

lieving suffering and spasm, the author proceeded to remark, that he thought so simple and harmless a proceeding as dividing the tendo achillis might be adopted with advantage in other cases of more frequent occurrence, especially as the cure would not thereby be retarded. He concluded with noticing a remark of M. Bonnet's, that he has frequently divided the tendo achillis in cases of diseased ankle-joint, where rest was imperative, and the heel was drawn up by the muscles inserted into it.

Mr. B. Phillips remarked, that the plan of proceeding proposed by Mr. de Morgan had been adopted to a certain extent in France and Germany, but he hoped it would not be carried out as fully here, in England. It was not generally necessary to divide the tendon of the rectus muscle in the case of a fractured patella, or of the triceps in that of a fractured olecranon. Still cases might occur where such an operation might be useful. It must be remembered, that, in such cases, the operation is performed on tendons, which are of the proper length at the time. All the members of the Society are aware that when the section of a tendon is practised, the cut ends separate to a certain distance—to half an inch, or more. In the cases before them, the chasm was very considerable, and such is generally the case. The result is, that a large quantity of new matter must be formed, sufficient to fill up this chasm, and the tendon is thereby lengthened. In club-foot the tendon is already too short, and it is cut to make it longer; that end is obtained by the operation. When, however, the tendon is of its due length, there is no need for the operation, and harm must follow its performance. The same thing happens in cases of rupture of the tendo achilis; it becomes too long, and the heel is never fully raised from the ground. He (Mr. Phillips) referred to the case of the late Mr. Justice Taunton, who ruptured his tendo Achillis while dancing, and was lame for life afterwards. Although it appeared that this lengthening did not occur in Mr. de Morgan's cases, such a result might be generally anticipated, and would, he feared, prove the point of difficulty in the operation.

Mr. Lonsdale, in reply to Mr. Phillips, said, there would be no reason to fear the elongation of the divided tendon. In fact, if the foot be not kept sufficiently flexed, the tendon would contract too much. The only case in which elongation might be feared would be when the muscle is palsied; in the healthy limb, if the parts be kept in contact, there would not be any reason to fear an unnatural elongation of the tendon. It was an occurrence he had never met with.

Mr. Avery, in a few words, confirmed the statement made by the last speaker.

Mr. de Morgan wished to correct an error into which Mr. Phillips had fallen, by overlooking the word "not;" the chasm between the divided ends of the tendon never was very great; it never exceeded a quarter of an inch, that space being sufficient for the reduction of the fracture, and shortly afterwards it was scarcely appreciable. He was not inclined, from the results of his experience, to anticipate that any lengthening of a tendon would follow its subcutaneous section, nor could he admit that cases in which tendons had been ruptured were at all analogous to those in which their division had been effected by surgical interposition. From what he had seen of the cases he had brought before the Society, he should not hesitate to operate in others of less severity, and certainly not, if by doing so he could save or prevent a few nights being passed in suffering from spasm. In cases of fracture of both bones of the leg near the malleolus, although the spasmodic action of the muscles might, perhaps, be checked by the application of splints, he nevertheless would feel himself justified in operating.

Mr. Charles Hawkins remarked, that as the occurrence of spasms during the first few days after a fracture greatly interfered with the well doing of the patient, he thought the operation might be usefully performed, as it might also in other cases in which fracture had not taken place. He had no fear of the elongation of the tendon, a result which he had never met with. Cases of fracture of the patella were, perhaps, in their result less creditable to a surgeon than any other accident. The patient had rarely afterwards an useful limb, owing in a great measure, as he thought, to the impossibility of keeping the ends of the bone in apposition. In one case, and in one case only, had he seen bony union occur, and in that the other patella was shortly afterwards broken, and the patient was lamed for life. He had seen a case lately in which as he thought, this operation might be advantageously performed. About a year and a half ago, a lady was driving in a country road, and being frightened at a cart which was coming, jumped out. She walked home afterwards, and then complained of her ancle. Medical assistance was obtained, but no benefit was derived. The late Mr. Key was called in, and he made a caustic issue near the joint, but without advantage. Mr. C. Hawkins was consulted about a month since; he found that the ancle was not injured, but the tendo achillis was so contracted that she could not bring her heel to the ground, and she walked consequently with a high-heeled shoe. The pain which this patient suffered was very severe, and he thought it not impossible that, in such a case, relief might be afforded by the operation under question. It might prevent the recurrence of the spasm; at all events, he believed it ought to be tried, as it was one of great simplicity.

Mr. Le Gros Clark did not agree in the recommendation to divide the ligamentum patellæ in cases of fracture of that bone; neither did he regard it as an unimportant operation, on account of its contiguity to the knee joint. He thought, that if it were performed, the tendon would elongate, and thus, what was gained in one direction, would be lost in another.

Mr. Lloyd believed, that when a tendon had been divided there was at first a chasm, but when the cure is effected, the separation of the divided ends is very slight indeed, and, very often, it cannot be ascertained where the division has been effected. He was of opinion that the proposed operation would be useful in those cases of fracture where it was difficult to keep the broken portions of bone in apposition, especially when the muscular contraction caused the riding of the upper part of the bone. He believed that, after fracture of the patella, patients generally recover with very good limbs, and are as able to walk as before the accident happened. The drawing master of Christ's Hospital fractured both patellæ; after a time, he fully recovered, and could take long walks. Younger persons recover thoroughly after such accidents. A gentleman, who was a great sportsman, and also much addicted to walking, fractured his patella, the injury not being discovered until long afterwards, his leg having been broken at the same time. When the fracture of the leg was cured, that of the patella was discovered, and then the broken ends of the bone were separated to the extent of three inches. Notwithstanding this, after the lapse of a year and a half, he was enabled to resume his shooting, and apparently walked as well as ever. Mr. Lloyd objected to any attempt being made to bring the broken pieces of bone together by force. Synovitis and other unpleasant accidents would occur, and the patient would never have a good limb. He would treat such cases by position only, and he always sent them out of hospital with a very small intervening space between the fractured portions, and with a very good limb. He had only seen one case of bony union.

Mr. Charles Hawkins had referred in his remarks to cases of fractured patella, after they had left the hospital, of which he had had the fortune to examine several. When the limb began to be used, the intervening substance began to elongate, and this ultimately greatly impaired the utility of the limb. This was the case with a country gentleman, who had met with the accident. As soon as he began to take exercise, the elongation commenced, and his limb weakened. In the only case of bony union which he had seen, the patella had been broken by a direct blow. Great inflammation followed; no apparatus was employed; and the patient ultimately fully recovered with a sound limb. He afterwards fractured the other patella, and in that case bony union did not occur; and when he used the limb the intervening space lengthened, and the limb became comparatively weak.

Mr. Bainbridge, of Tooting, spoke of two cases of fracture of the patella, in which he had successfully employed the late Mr. Earle's gun apparatus, and said that patients were able to walk about with it in a few days after the accident, as well as if nothing had happened. He also mentioned cases in which patients were able to walk about and perform their ordinary avocations, after a cure had been effected, although the broken portions of bone were widely separated.

Mr. Hodgson, of Birmingham, was of opinion that shortening of the tendon occurred after its section, instead of its elongation. After division of the tendo Achillis, he had not found it necessary to employ a complicated apparatus, which, by the pressure it exerted, caused sloughing sores, and thereby retarded the cure. Passive exercise three or four times a day would be generally sufficient, and, when it could be done, standing on the leg, and swinging it to and fro. In every case of fracture of the patella which he had examined after death, the union had been by cartilage or ligament, and not by bone. This he regarded as a wise provision of nature, as the exudation of the callus in cases of bony union must, more or less, interfere with the motions of the joint. He had seen two or three instances in which the tendon of the rectus had been ruptured; and, in all, the chasm thus formed remained for life, and was the source of great annoyance. In one of these cases the patient was a medical man, and the accident was the cause of great inconvenience to him. Every means were used to remedy it, but in vain; he remained lame for life.

Mr. Lonsdale observed, that the shorter the ligamentous union was, the better it was for the patient. He had never seen a person, in whom there was a long ligament between the fractured pieces of bone, walk well. As long as the upper part of the bone remained over the trochlea of the femur, the patient would have a comparatively useful limb. Beyond that the limb must be weakened. He had never seen bony union in transverse fracture of the patella.

Mr. Lloyd stated, that when he sent patients out of the hospital, after treatment for fractured patella, a splint was placed at the back of the joint so as to keep the limb extended for a certain time. The splint was kept there, indeed, during the whole treatment of the case. The consequence was, that that the upper part of the broken bone was not drawn away from the lower, after the person had ceased to be under his care.

Mr. Erichsen considered the operation justifiable in cases of fracture of the leg low down, when muscular spasm prevented the keeping the foot in position. In one class of injuries this operation had been performed, although it had not been alluded to by any of the speakers, namely, that of dislocation of the astragalus forwards. The difficulty, in such cases, arises from the upper surface of the os calcis being jammed against the tibia, from which it cannot be replaced, except after the section of the tendo achillis, when the foot can be drawn downwards, and the astragalus reduced. This improvement we owed to the modern school of Dublin Surgery. Cases of this dislocation have been left unreduced, because the strong spasm of the muscles of the calf could not be overcome.

Mr. Shaw mentioned a case of dislocation of the astragalus, which had been under Mr. Arnott's care in the Middlesex Hospital. The division of the tendon was effected, but the fracture could not be reduced, and the bone was ultimately excised. The patient did well.

CASE OF MONSTROSITY.

By JAMES BOWER HARRISON, M.R.C.S.E.
Formerly Surgeon to the Ardwick and Ancoats Dispensary, Manchester.
(Communicated by Dr. W. VESALIUS PETTIGREW.)

The author was called on the 10th of January, 1849, about seven o'clock in the evening, to attend a poor woman who was in labour. On making a vaginal examination, he found the membranes protruded in a pyriform tumour, but could not detect through them any part of the child. After the membranes had burst, he made a further examination,

and felt a soft tumour presenting, which resembled the bag or membranes before it had ruptured. Passing his hand around the tumour, he at length discovered a hard substance partially concealed between the tumour and the parietes of the uterus. This hard body was a distorted leg and foot. A ligature was passed round the foot; ergot of rye was given; the pains, before feeble, became stronger and, with the aid of slight traction, the foot was brought down, when a finger passed up to the top of the thigh felt a substance which resembled the body of a child having only one leg and no organs of generation; the soft mass being still felt. After some time, the whole mass, with the distorted body of the child, descended and came through the os externum. The fœtus was a monstrous growth. The soft mass was found to be a hernial protrusion of the abdominal viscera, owing to the deficiency of the abdominal parietes below the umbilicus. The navel-string had become detached. The right leg was directed transversely, and the foot curved inwards. The left leg was pushed upwards, out of its proper position, by a second tumour, the sac of a spina bifida, the left foot being curved like the other. The ossa pubis were deficient, as well as the spinous and transverse processes of the lower vertebræ, and the posterior walls of the sacrum. The genital organs were imperfect; the head, shoulders, arms, and chest, were all natural. Some little time having elapsed, the placenta was removed with the hand; the whole being accomplished by about ten, or half-past ten o'clock; the mother did well. The author regards this case as having considerable interest in an obstetrical point of view particularly as regards the presentation of a soft tumour in the manner described.

A good drawing, by Mr. Stephenson, was exhibited, which showed the distorted form of the fœtus.

MEDICAL SOCIETY OF LONDON.
Nov. 19, 1849.

F. Hird, Esq., in the Chair.

PROPOSITIONS ON CHOLERA—PARTIAL PARALYSIS—EFFECTS OF STEEL—ULCERATION OF THE APPENDIX VERMIFORMIS.

Mr. Dendy submitted the following propositions as the result of his experience during the late epidemic:—

The name should be Acholera. Because when cholera or gall-flux is established, the prognosis becomes favourable.

It is the first stage of a dynamic fever. Because this fever in varied degrees is constantly developed on the subsidence of the flux.

The predisposing causes are anxiety, low living, bad habits, crowded localities, malaria of decomposition. Because the absence of these is proved to be prophylactic.

It is epidemic, and essentially contagious. Because there was a prevalent establishment of the disease over a large space of the kingdom in a few days.

The existing cause is a poison imbibed or inhaled, influencing the ganglia, the blood, and the bowels—the symptoms enduring until the poison is destroyed or expelled. Because spasms, dycrasia of the blood, and intestinal flux are the consequence of the blood being rendered unfit for circulation and secretion.

That premonitory diarrhœa is not an essence of the disease. Because the epithelial flakes are fewer in diarrhœa, and we have periodically a severe diarrhœa, not formidable unless a malignant epidemic be prevalent.

Diarrhœa renders its subjects highly susceptible to the malignant invasion. Because as the uterus during parturition, so the mucous membrane during diarrhœa is a *weak point* in the system.

The flux would probably be a *safety-valve* to the system, as the pustule of variola, and the exanthem of rubeola, and prove salutary, if the systemic energy were sufficient. Because many of the highly malignant and speedily fatal cases occurred without this flux; and because like that of inflammation, its unfettered intensity destroys.

The result of the malady depends essentially on the resisting power of the system, *quoad* the dose of poison introduced. Because persons in various conditions, and subject to the same influence, present symptoms of varied intensity.

Prognosis must be formed chiefly from the re-establishment of the secretions. Because this indicates a renovation of the blood, and the elimination of deleterious matters from the system.

There is no specific antidote to the poison yet discovered. The adoption of one remedy (?) from isolated experience is unscientific, and its advocacy perilous. The unlimited exhibition of alcohol and opium is unsafe. Because it is so often followed by fever and narcotism.

Mr. Clarke brought before the meeting a lad, 11 years of age, labouring under paralysis of the left deltoid, and biceps of two months' duration, and occurring without any known cause. He was a coach-trimmer by trade, and only exposed to lead poison when working in coaches after they had been freshly painted. He did not present any symptoms of the poison of lead having acted on the system. The paralysis was of motion only, sensation remaining perfect. The arm was not smaller than the other; no tenderness or irritation about the spine had not sustained any local injury; sight good The case was looked upon, in some degree, as choreal, in consequence of peculiar muscular twitching in the face. Tonics, frictions, and galvanism had been tried without effect. The peculiar galvanic influence had been felt, but no benefit had followed its employment.

A Member thought that masturbation might have been the cause of this anomalous affection, but it appeared that no inquiry had been made on that head, and it was regarded as a delicate subject to question upon. Its connexion with chorea and hysteria was discussed, and led to remarks respecting the uses of the valerianate of zinc and steel tonics. Mr. Clarke said, in this case he had given the muriate of iron tincture for a month. He had commenced with ten drops three times a day and had gradually raised it to half drachm doses. He had given it, in fact, until the head became slightly affected, when he was obliged to leave it off. Not the slightest benefit followed its use.

Mr. Dendy had tried both the valerianate and the the sulphate of zinc in practice, and considered the former as the preferable medicine, but its odour was so offensive that few ladies could be induced to persist in taking it. The preparation he had used had been brought from France. It had proved very serviceable.

Mr. Shearly had used it in grain-and a half doses three times a day, in cases of chorea, in the form of pills. The patients recovered rapidly. He wished to mention that he had used a saturated tincture of capsicum, as an external counter-irritant, in cases of otitis and diseases of the eye, with great advantage.

Mr. Headland was of opinion that Mr. Clarke's case resembled in some degree those narrated by him to the Society some few weeks ago, and that it was more allied to hysteria than to any other complaint. It probably depended on masturbation, which, it is well known, prostrates the nervous system greatly, and induces maladies attended with very anomalous symptoms. When such occur in lads, he should be tempted to suspect the habit of onanism. With respect to the treatment of such cases, he had had reason to be disappointed with the effects of chalybeates, and he believed they yielded more readily to change of air and scene, and to treatment applied to the mental condition, rather than to the physical state of health. The change of air would be the more beneficial, if the sea-side were selected for residence. Mr. Headland further gave it as his opinion that preparations of steel should not be used in cases where there was red tongue; under such circumstances it not only was of no use, but might prove injurious. The cases in which a white or flaccid tongue, with great anemia, was met with, were those where chalybeate preparations would be most advantageous. The selection of a particular preparation of steel, according to the case in which it was to be used, was very important. The mere tonic effect could be obtained from several, but experience led us to prefer one preparation to another in certain cases. In cases connected with a strumous diathesis, for instance, the combination of iodine with iron—the iodide of iron—would be more serviceable than either of them separately. This salt was best given in the form of syrup, as it is not liable then to decomposition. In leuco-phlegmatic habits, in suppression of the catamenia, with a soft, moist skin, the sulphate of iron in large doses may be serviceable. The hydrochlorate of steel is not given with the same view as the sulphate, iodide, or carbonate. It has a more special action than the other preparations; when taken after a meal, in certain cases of dyspepsia in leuco-phlegmatic habits, it has a singularly beneficial influence; but it is not suited for cases of amenorrhea, nor of struma. In some cases in which iron is supposed to be of use, viz., those of neuralgia, many different preparations have been used, but none are of equal benefit with the carbonate. There is something yet unexplained in the beneficial action of preparations of steel, as evidenced by their habitual employment in cases of chlorosis and menorrhagia. Without supposing that it is not of service in these opposite conditions, he thought practitioners must exhibit it with different anticipations of its operation on the system.

Mr. Hird described the case of a little boy, whom he had been asked to see some days previously, when in a dying state. The child was subject to congenital hernia, and after catching cold, presented symptoms of strangulation, such as persistent vomiting, pain and fulness in the right inguinal region, collapse, and continuous constipation. The fulness in the right inguinal region was soon followed by tenderness, which extended over the whole abdomen; and the latter was speedily tympanitic. The canal was carefully examined, but no rupture could be detected. Mr. Hird's opinion was adverse to an operation, and the patient died the next day. The body was examined ten hours after death. On laying open the abdomen, pus escaped from between the surface of the intestine and the peritoneum lining the abdominal parietes. Extensive adhesions were discovered, with other indications of inflammation, and also a small ulceration in the appendix vermiformis. Nothing could be ascertained which could have led to the occurrence of such mischief, but it appeared that the boy had had two similar attacks previously. Mr. Hird was opposed to an operation in this case, because the child was evidently dying, and because the few operations which had been practised in similar cases had all failed.

November 26.

Henry Hancock, Esq., President.

DOUBLE COMPOUND FRACTURE OF THE TIBIA AND FIBULA.

Mr. Hunt narrated a case of compound fracture of both bones of the leg, which occurred in his practice a few years since at Herne Bay. The patient was a heavy young man, a plumber by trade, who fell from a height of fourteen feet on to a gravel walk, in consequence of the breaking of the ladder on which he was at the time. He fell on his feet, and said he heard distinctly the snap of the bones of the leg, and as he fell again, he heard another snap. On examination, both the bones of that leg were found to be broken just above the ancle, the joint being intact; the broken ends of the bones were forced through the integuments. Another compound fracture of both bones had occurred higher up the leg, the portions intermediate to the two fractures lying transversely across the limb. There was not any comminution of the bone, nor was there much hemorrhage. The application of moderate extension soon caused the displaced and projecting portions of bone to return to their place; the patient was then laid on a mattrass, on the side on which the fracture had occurred, with the leg semi-flexed, and surrounded with a napkin, but not tightly. Tepid-water dressing only was used. After a few days some swelling occurred, to relieve which the napkin was snipped; when this had subsided, there was very little pain, and the patient went on well. After ten weeks had passed away, the pieces of lint over the wounds were removed, and the compound fractures were found converted into simple ones. Bony union had taken place, and in a few weeks more the patient was able to walk about,

and employ himself in his business. There was not any subsequent deformity. The fractures were treated throughout without the application of splints. Mr. Hunt observed, that he had not brought the case forwards as exhibiting any novelty in its treatment, but as illustrative of successful treatment in the pure air of the country, and with the strong constitutions of countrymen, of a bad case, which, had it occurred in a London Hospital; would be deemed a proper one for amputation. He had himself been doubtful of the case at first, and had proposed a consultation with a view to operating; but his patient had strenuously refused his consent, and he determined to try and save the limb. He had formerly considered the healing the wounds as the result of the exclusion of the atmospheric air, and had laid great stress on that point, believing that inflammation and suppuration were not unfrequently induced by the custom of repeatedly uncovering and dressing the injured part. He now thought, that the beneficial result of the practice he adopted depended on the maintaining an equal temperature, sudden changes of which always caused irritation. This view he adopted from Mr. Crompton's paper on Burns and Scalds. It was important, he thought, to keep wounds at the temperature of the body, about 98°.

In the discussion which followed, the influence of atmospheric air was considered, and the beneficial action of solar light was also alluded to. No new point was elicited.

DECEMBER 3.

Private business occupied the attention of the Society on Monday last. It appeared that the trustees of their freehold property have died, without the appointment of successors, which ought to have been the case, and, consequently, the Society is without a marketable title to their property, and will be obliged to take proceedings in equity, to obtain the appointment of new trustees. Other business was also transacted; such as the decision to appoint the President for one year only, and also to remove the Society to a situation further westward. These alterations remain still to be confirmed by the Council.

CORRESPONDENCE.

MR. BOTTOMLEY AND THE CONFERENCE AT THE HANOVER-SQUARE ROOMS.

[To the Editor of the Medical Times.]

SIR,—I, by chance, had an opportunity of seeing the *Lancet* of the 1st inst., and, to my great surprise, I saw published certain resolutions forwarded by Mr. Bottomley, of Croydon, to that Journal, purporting that they had been formally agreed to at the "Medical Conference," held at the Hanover-square Rooms on the 20th ult.

I think the publication of those resolutions in the form in which they stand, is calculated to place the National Institute in a wrong position.

It was unanimously acceded to by the "Conference," that the part of the resolutions which expressed, "that the Institution as a third College would tend to the degradation of the mass of the Profession," should be erased.

I certainly think that all the reasoning and ingenuity of the *Lancet* and Mr. Bottomley can never dupe the mass of the medical profession so far as to make them fancy, that although we are now in the lowest state of degradation, that the establishment of an independent College, based upon those liberal principles advocated by the National Institute, can ever have a tendency to keep us so.

I have the honour to be, dear Sir,
Your very obedient servant,
Ulverston, Dec. 5, 1847. GEO. GIBSON.

"BLIGHTING INFLUENCE" OF UNIVERSITY COLLEGE.

[To the Editor of the Medical Times.]

SIR,—Allow me to offer some additional information on this subject, which I have been at pains to collect, in confirmation of the discovery of your far-seeing contemporary. The Professors and Medical Staff of University College have not been the only sufferers from the "miasma" of that place. As might be expected from its nature, the fatal influence has extended to officials of every grade. Witness the following losses among the College servants:—

Henry Morgan, beadle!
John Downie, successor to last!!
James Morgan, beadle!!!
James Hill, servitor!!!!
John Sherriff, porter!!!!!

Five valuable officers sacrificed within the short period of eight years!

Yours, &c., QUINUNCULUS.

GLYCERINE.

POUR ET CONTRE.

[To the Editor of the Medical Times.]

SIR,—The north-easterly winds of this week have, I have little doubt, reduced many to the condition of one of my servants, who showed me, a few days since, her wrists and arms, chapped and bleeding,—in fact, in such a state that she was unable to perform her ordinary house-work without great suffering. She had used all the ordinary remedies,—such as cold cream, lip-salve, goose-grease, &c., without benefit. Having obtained some glycerine, I directed her to smear her arms and hands with it every night. After using it two nights the roughness and chaps have almost entirely disappeared, the glycerine having acted,—to use her own expression,—like a charm. Although I do not think there is anything new in this application of glycerine, calling the attention of the Profession to a cheap and apparently sure remedy for a painful condition, especially affecting the lower classes, cannot fail to be of service.

I am, Sir, your obedient Servant,
HENRY J. M'DOUGALL.
24, Henrietta-street, Cavendish-square,
Nov. 29, 1849.

[To the Editor of the Medical Times.]

SIR,—Some weeks, perhaps now months ago, I saw the first notice of a never-failing remedy for deafness. I cannot tell you how delighted I was when I saw the announcement. I read the Article, and when I had done and closed my eyes for reflection, I saw the word *Glycerine* stand like a ghost in plain and prominent characters before my imagination. I then inquired the meaning. I had heard often of Glycyrrhiza, and remembered that I had often purchased it when at school. I said it could not be that, for it was spelled differently. Then I imagined it to be some new-fangled extract, perhaps alkaloid of Spanish juice. However, after I discovered, on rummaging over the knowledge in my knowledge-box, that it was something of a fatty nature,—law! how I stared then. Surely, thought I, it must be a wonderful sort of thing—I'll give an order for some. I began to reason on its effects, of the manner in which it effected a cure. Glycerine a fat—oh! I have got it. The cause of deafness must be a clogging of the wheels in the ear-machine, and his fat must be applied for the purpose of greasing them; and no doubt the idea must have been first obtained from the practice observed at railway stations, where porters go round with a quantity of yellow fat to put in boxes over the wheels of steam-carriages. The idea is splendid.

However these reflections were checked when I recalled my anatomy of the ear,—its physiology in health, its pathology in disease,—my hopes were at once frustrated, my joy turned into mourning, my faith lost, and I began to think of Morrison's pills, which were to do wonders; and it is reported of those who swallowed a sackfull at once, that if minus arm, or leg, fingers or toes, heads or brains, they were restored; so that those who had previously some time been useless in society, were made useful. At length I recalled the laughable song of Henry Philips, who invariably splits his sides in singing it, as no doubt many of your intelligent readers are aware. Had you not often told your readers, that you never published poetry, or at least poetical attempts, in your Journal, as beneath the attention of men of sense, and learning, and science, I would have attempted to have put the song in question in the form of a parody.

But, to be serious: I came to the resolution, before trying glycerine myself, I would see that others spoke favourably of it, and that it was a never failing remedy, if not in all cases of deafness, at least in some forms. The lapse of a short period has been the means of putting it, like many other potent remedies, into the shade; and it only remains now for the whole Profession to attend in deep mourning, with a view of burying it in oblivion. I trust that professional men, for their own reputation, will become, hereafter, too enlightened to run, like children after music in the streets, after every new remedy that is puffed into fame,

As glycerine, that queer,
Remedy for the ear.

I am, Sir, yours respectfully,
Nov., 1849. A REFORMER OF ABUSES.

COX, DAVIES, AND SILK, v. MIDLAND RAILWAY COMPANY.

[To the Editor of the Medical Times.]

SIR,—As this important case has been repeatedly brought before the public during the last two years, I trust you will afford me the opportunity, through the medium of your columns, of again bringing it before the public. As it has at last terminated in a manner which crowns the whole of the proceedings by executions being issued by the Company against the plaintiffs for their costs in defending this action, and by my having had an execution put into my house, and my goods and chattels virtually seized in payment of my share of such costs, amounting to 99*l.* 14*s.*, which I have actually paid, I think it only fair, that the Medical Profession and the public, whom I consider vitally interested by the decision upon this important case, should be made acquainted with their relative positions. The decision upon this case clearly shows, that the Company are not bound to provide medical aid for a passenger in case of accident upon their line of railway; that the servants of the Company have no authority to call in Medical aid; and should they so far overstep their authority, as to call in Medical aid, that the Company are not bound to pay the doctor; that the only person the doctor has to look to for payment, is the party injured, and, in the event of his being too poor to pay, the only chance the doctor has of being remunerated for his services is by the party injured bringing an action against the Company; and should he succeed in recovering compensation for the injury, still it remains to the honour of the party injured, whether he will pay the doctor. As it is now quite clear, that a medical man has not any claim against the Company, I should like to know what medical man, under such circumstances, unless he is fully assured of the respectability of the party injured, will volunteer his services to take charge of a railway accident, and run the risk of having a very severe and dangerous case under his hands for two or three months, probably at the distance of some three or four miles from his residence.

Since this has been before the public, I have repeatedly asked several of the porters at the different stations, and likewise several of the guards belonging to the Midland Company, what they should do in case of accident? The answer I have invariably received has been, that they did not know what to do; that they should do nothing, but leave the parties injured to their fate.

It appears to me a very hard case, that three humble individuals, suing a great and powerful Company for what was fairly and justly due to them for services rendered to an unfortunate individual who had met with a most serious and dangerous accident upon their line of railway, and whose life must have fallen a sacrifice, but for the most prompt and efficacious medical aid having been rendered to him, and which accident was clearly shown to have arisen from the carelessness of the Company's servants, should not only be deprived of what was justly due to them, but likewise be called upon to pay the costs of the Company in defending the action, more especially when it is taken into account that this case ultimately terminated upon a point of law, which I believe had never before been mooted since the introduction of railways, namely, the non-liability of Railway Companies for orders actually given by their own servants.

I am, Sir, yours &c.,
J. DAVIES, M.D.
Blythe College, Coleshill, Nov. 1849.

P.S. For particulars see *Daily News*, January 18; the *Times*, January 30; and *Aris's Birmingham Gazette*, February 5, and March 19, 1849.

MIDWIFERY.

[To the Editor of the Medical Times.]

SIR,—For the advantage of your youthful readers, I send you the following case. It illustrates the observations of a Dublin writer on the advantage of preserving the membranes entire in cases of premature labour, where there may be hæmorrhage, while yet there are pretty strong pains, by which there is reason to expect the expulsion of the entire ovum by patiently waiting, when the woman's strength is not much reduced by the hæmorrhage.

The patient, seven months gone with child, sent for help on account of some flooding. When the doctor arrived the membranes protruded at each pain, but still every time there was slight hæmorrhage. In order to put a stop to this discharge, and in the hope of expediting the labour, the membranes were ruptured.

Immediately the pains ceased, but not so the bleeding; and after waiting an hour, and the woman had suffered a considerable loss, the hand was obliged to be introduced, and the child turned and brought away, a painful and somewhat difficult operation at the seventh month.

The error in this case lay in not letting well alone. As the pains were pretty strong, and the membranes protruded well, in all likelihood the whole ovum would have been expelled in a short time, and thus averted the danger and difficulty resulting from the cessation of pains which immediately took place when the membranes were ruptured, and the stimulus of the waters taken away.

The Dublin doctor insists upon the advantage of allowing the membranes spontaneously to break in most cases of natural labour; the danger of after-hæmorrhage thus being greatly lessened by the more favourable separation of the placenta. Instead of the pains coming on better by the escape of the waters, they are often stopped for hours, to the detriment of the mother, and sometimes the destruction of the child.

Yours, &c.,

SARSUR.

[Sarsur has favoured us with his name.—ED. *Med. Times.*]

THE CONTAGIOUSNESS OF CHOLERA.

[To the Editor of the Medical Times.]

SIR,—I shall not venture upon the Herculean task of trying to convince Mr. Leithead of the contagious nature of cholera, neither shall I try to contravert the practical notions of the disease he has acquired in so wide a field of observation as the Old Surgeons' Hospital at Edinburgh; but I shall merely add in this communication a sequel to my last hasty scrawl, in order to illustrate still more forcibly the inferences I then drew from but a limited observation of the disorder.

The population of Bulwell is about 3,700, and the houses in which the disease *broke out first* look upon a grass close in front of my residence, and behind them there is also an open space sufficient for a thorough ventilation. Several weeks previously to the outbreak I had attended to the sanitary condition of the yard, and had the nuisances removed and a privy erected.

Cholera, when it began here, had not become *universal* in the village; not *even dreamt of*; for when the alarm was sounded I opened my surgery to every applicant, and a *slight tendency* only was evinced by the villagers to diarrhœa. I may, I think, fairly presume from this circumstance, that the *spread of the cholera* did not depend upon an epidemic origin, for no other parts of the village were similarly affected, but solely resulted from contagion.

I do not, I never have denied the *epidemic nature* of the complaint, but I do assert, after a most attentive observation, *that there is a cholera poison generated in cholera patients*, and *generating* in its turn; *inherent in* the bodies of those who die, *adherent to* the discharges of those who live, *capable of being* destroyed by disinfectants, and *hanging round and hovering over*, as a halo, the place where it originates. *Attacking most powerfully* those exposed longest to its influence, deranging slightly those imbibing it in a diluted form.

It is not because five, six, or seven persons in a room with a cholera patient sometimes escape, you are to argue the non-contagiousness of the complaint, for, in small-pox, this very frequently happens, yet no one denies the propagandism of it as in measles and scarlet fever, *cum multis aliis*. It would, indeed, be hard upon mankind for such a rule to become general, and under this code the human race would soon be annihilated.

Does Mr. Leithead and other non-contagionists ever employ disinfectants in cholera cases, or is he so wedded to his theory as to neglect proper precautions against the enemy?

The only way to arrive at the truth of this highly-important proposition, is to collect together into one focus the experience of the Poor-law Medical Officers in country districts, who have witnessed the epidemic, and to cull from their reports every fact which will tend to elucidate the subject. Such a task I would willingly undertake if gentlemen would communicate with me, and I would lay every opinion before your notice, whether or not they coincide with the views I have advanced.

The sequel to my first letter is as follows:—Mrs. Dawse, the woman who attended nearly every cholera case in the row before alluded to, nursed her husband, and when in a state of collapse she hung over him, and as it were, sucked in his poisoned breath. Her diligent attention saved him, but in a few days after she was seized with the disorder and died rapidly of it.

The only *house* which the pest avoided in the row, was the house of a man recently returned from prison, who did not communicate with his neighbours.

A drain, running from these houses and emptying itself into the road sewer, conveys the discharges to a distance, and a person whose door opens just at the junction, had a most severe attack of diarrhœa.

In the case of Robert Slamforth, through the kindness of a reverend gentleman, the patient's bed and bedding and clothes were destroyed *instanter*; the house on Sunday was whitewashed; strongest bleaching liquor was poured about; and I believe the disease stopped in this house from the extreme caution taken to destroy everything which could hold contagion. So this goes still further to substantiate my point.

Again. Mrs. Osborne, complaining of diarrhœa, comes to my surgery, and passes immediately in front of the before-mentioned houses. She goes home; is attacked with genuine cholera. Next morning her child, Anne, is seized, and dies in eight hours, and another child is taken very ill. The discharges from these patients were carried out at the back door, and most imprudently thrown on an ash heap, *immediately under the sleeping apartment* of a man named Wildjust, who becomes affected, and dies in a horrid state. These cases are in a different part of the village. The man who laid Wildgust out goes home and gets into bed, and in the night I am called up to his wife with evident symptoms of incipient poisoning, which is carried off, however, by a dose of castor oil and saline. A woman, too, washed Wildgust's clothes, and she, going home to her family, conveys it to her son, who is also suddenly seized, as if slightly affected with the poison—having cramp in the stomach, slight diarrhœa, and headache.

Whilst I was at Osborne's, a shoemaker came in and looked at their dying child for some time, when we were trying to get warmth into it. He returns home, and the next case is *his wife*, who recovers after a most violent attack. I do not wish these instances to be taken for more than they are worth; they would be worthless if others, *like Mr. Moyle*, could not bring forward similar cases; and had I time I could also bring capital proof of a like occurrence in Ratcliffe, a village about four miles the other side of Nottingham, in which the disease, when it once commenced, ran the gauntlet as with us.

I trust I have not encroached too much on your valuable space, affected great things when I have nothing to boast of, added no erroneous theory to the domain of medicine, and excited no ill-will towards me from those opposed to my deductions.

I remain, Sir, your obedient servant,

ALFRED EBSWORTH.

THE PROXIMATE CAUSE OF EPIDEMIC CHOLERA.

[To the Editor of the Medical Times.]

SIR,—Reading Dr. Toogood Downing's paper, which appeared before the London Medical Society of London on the 12th inst., on "The Proximate Cause of Epidemic Cholera," I was glad to find that he considered *spasm* as the chief cause of all the more grave symptoms of the disease, and this is also my humble, though firm belief.

Shortly after the cholera left this locality, and when every circumstance connected with this disease was fresh on my memory, I made a few short notes, which, as they agree in such a singular way with Dr. Downing's views, may not be unworthy a corner in your Journal.

My observations were, that the poison or exciting cause of cholera, whatever that may be, appears to act in the first instance through the medium of the nervous or the muscular system, and through that of both on the circulation. A nervous shock is produced, and muscular spasm is the result of such shock.

This spasm affects both the involuntary as well as the voluntary muscles. It extends to the muscular coat of the stomach, producing pain, vomiting, &c.

And it would appear also to extend to the muscular coats of the arteries, and even the bronchial tubes—producing in the one set of vessels, unequal diminished circulation, and in the other more or less dyspnœa and imperfect oxygenation of the blood in the lungs, leaving nothing but a fluid of too thick a nature to circulate, and too impure to be of any service in the economy. Hence, none of the usual secretions—urine, perspirable matter, bile, &c.; for, though in the majority of cases this fluid has been found in the gall bladder, yet probably it was secreted long before the attack of spasm occurred, which detained it in its reservoirs.

I also quite agree with Dr. Downing in supposing the serum of the blood to be squeezed out through the delicate coats of the blood-vessels, by the same spasmodic canal.

Dr. Downing mentions as a remedy the dilute hydrocyanic acid. I can certainly vouch for its good effects in checking obstinate vomiting, having used it successfully when all other means failed in arresting the irritability of the stomach.

I fear, Mr. Editor, I have now trespassed on your space too much, but the importance of the subject I thought would justify me in giving my support, weak though it be, to Dr. Downing's spasmodic theory, which appears to me a very rational one.

I have the honour to be, Sir,

Your obedient servant,

SPASM.

Portsmouth, November 25th, 1849.

EXAMPLE OF SYMPATHY OF PARTS.—DEATH ON THE FOURTH DAY FROM A KICK ON THE LEG.

[To the Editor of the Medical Times.]

SIR,—On the morning of 3rd November current, I received a call to attend a boy of eight years, who, the messenger, a young lad, most truthfully, as it turned out, said, had received a kick on the leg, and that "the hurt had flown to the brain." On arrival, about 10 a.m., at the boy's residence, six miles distant, I found the father and other relatives assembled around the bed; the boy being quite unconscious of what was passing. The pupils of the eye were largely dilated, and insensible to the stimulus of *light*, which I still further proved by passing a lighted candle and other objects before the eyes. Pulse under a hundred, and presenting nothing unusual. Respiration and heat natural; the features rather pale than otherwise. On being loudly spoken to he seemed unconscious, and gave no signs of hearing. Left leg, on the inner side, about four inches below the patella, around the calf, rather tense and swollen, but not remarkably so; and there was scarcely any perceptible discoloration, or mark of injury. Pressure gave no signs of pain. From the father, a small farmer, I learned that, about noon on the Wednesday preceding, the boy had received a kick on the calf of the leg from a schoolfellow about his own age; that he had not remained at school, but limped from Blair-adam home (to Chapel of Lochore, a farm on the estate of Lochore, the property of the son of the poet, the late Sir Walter Scott), a distance of two and-a-half miles. Being put to bed, the pain somewhat abated. During the night he was restless and uneasy. As the marks of external injury were so trifling, no importance was attached to it, and a cold water cloth was the only remedy employed. On Friday, he was seen by a practitioner, to whom, from the external appearances, the injury appeared of little consequence, and an attempt to force him to swallow some laxative powders, was succeeded by another nervous fit, lasting fully half an hour; the father adding that, though I repeatedly tried, with a metallic spoon, "I could not force open his jaws." A purgative enema then given, I was told, had a pretty full effect. During that afternoon, the delirium, which was occasional on Thursday, was almost constant. Such, so far as I could learn from the parents, and from a clergyman resident under the same roof, who frequently saw the boy, was the brief history of this case, previous to my seeing him, not quite three days after the receipt of the injury.

In this state of matters, after close cropping the hair, cold water cloths were applied over the vertex, and almost immediately thereafter, six leeches, being all that were at hand, were applied to the swollen part of the limb. And it was observed that, ere the leeches had dropped off, the boy asked for a drink of water, which was taken in small quantity. At this period, my attention being directed to the leg and the leeches, I regret that I omitted to observe whether there was much, if any, difficulty in swallowing. At the end of about an hour consciousness was partially restored, and the pupils had also somewhat recovered from their state of extreme dilatation.

Fomentations of hot-water cloths to the leg for four hours; to be followed by a large poultice, and to be frequently renewed. In the afternoon, if the

incoherence appeared to increase, three or four leeches to the temples. A purgative enema, q. p.

Giving such general directions as I thought necessary, I then left him, having expressed to the parents an unfavourable opinion of the case. Next morning, (Sabbath,) when preparing to repeat my visit, I received notice of the boy's death, which had taken place at 3 a.m., being eight hours within four days from the receiving of this apparently trivial injury, the early neglect of which, it is more than probable, contributed much to hasten the fatal result. That the kick was not one of great severity, is rendered probable by the extreme youth, only *eight* years, of the boy who inflicted it. The distance, and other circumstances, prevented a *post-mortem* examination. On inquiry at the clergyman above-mentioned, I learned that, with the exception of *once*, about two hours before death, when he asked for a urinal, he showed no signs distinctly indicating a return of consciousness; and further that, in the course of the Saturday afternoon, there was marked increase in the swelling of the limb.

In Surgery, the doctrine of irritation, or *sympathy*, teaching the immediate and remote effects of injuries; in what manner nature restores them, on the one hand; and, on the other, the mode in which apparently trifling accidents prove destructive, is universally acknowledged; but the real nature of sympathy is at present, and probably ever will be, beyond the reach of the human understanding, though the manifestations attending it are subjects deserving of inquiry, and of the utmost importance in practice. A writer in an able series of Papers, "On the Causes of Sudden Death," has remarked, that, "at the same time, it will be borne in mind, that a purely local affection scarcely exists, and that all parts of the animal economy are so intimately connected, at least in man, the perfection of organization, that no part can suffer, without the rest sharing in the distress." And it is not undeserving of notice, that the Apostle Paul (1 Cor. xii. 20, 25, 26) has, with equal beauty and accuracy, described the harmony uniting the parts as one, "That there should be no schism in the body; but *that* the members should have the same care one for another.... And whether one member suffer, *all the members suffer with it.*"

ROBERT ANNAN.

Kinross, November, 1849.

ON THE EPIDEMIC AND ENDEMIC NATURE OF THE CHOLERA.

[To the Editor of the Medical Times.]

SIR,—As a contributor and subscriber to the *Medical Times*, I must confess that the coarse and very unjust manner in which my name was adverted to in the pages of your last Number disgusted me exceedingly.

What have I committed that the said, unknown to me, slanderer dares to use the words "fallacious," "inconclusive," and vague, as tacked to my name?

I have not yet chanced to read anything issued by the Board of Health from Gwydyr House, upon the epidemic or endemic nature of the cholera, which I now regret, as any observations under the revision of my highly-qualified and talented friend, Dr. Southwood Smith, must command at all time the serious attention of all members of the Profession. Nevertheless, have not I, the individual who had the very painful duty to perform, from my position, the advent of the cholera into these islands, a right to express my convictions, from actual, most extensive experience, my impressions as to the nature of the pestilence in question? Of one thing, Mr. Editor, you will accord this to me.

Let any clear-headed, honourable member of the Profession read carefully from page 108, Part X., of my friend Dr. Copland's valuable "Dictionary of Practical Medicine," and he will find abundance of proofs of the endemic nature of the cholera, though it is needful to remark, *en passant*, that I had dismissed from my mind all that I had read previously upon this subject.

I am sorry that I have been so prolix, holding, as I always do, to the old maxim—

"Dum brevis esse laboro obscurus fio."

I remain, Mr. Editor,

Your most obedient humble servant,

W. REID CLANNY, M.D.,

Kt. Com. St. John of Jerusalem, &c.

Sunderland, Nov. 26, 1849.

GOOD PAY.—In Aberdeen the streets are swept every day at an annual cost of 1,400*l.*, and the refuse brings in 2,000*l.* per annum, the manure selling for 1,730*l.* This is, indeed, a premium for saving life.

ROYAL COLLEGE OF SURGEONS.

The necessary examinations for the "Fellowship" of this Institution commenced on Tuesday last, and were continued until Friday. The number of gentlemen who presented themselves as candidates for the honour amounted to twenty-two. The following were the questions in Anatomy and Physiology submitted to the senior candidates, (members of eight years' standing and upwards,) viz.:—

1. Describe the structure of the knee-joint, the movements which it is capable of performing, and the muscles by which these motions are effected.

2. Describe the use of the several valves of the heart, the order in which the auricles and ventricles contract and dilate, and the state of the heart when its pulsation is felt on applying the hand to the exterior of the chest.

3. Describe the diaphragm and other muscles employed in respiration; and describe their agency in the respiratory process.

4. Describe the course of the urethra, its dilatations and contractions, its structure, and the parts which surround it or are in its immediate vicinity.

5. Describe the differences of form and structure in the intestinal canal, and the functions attributed to its different parts.

6. Describe the changes which take place in the air received into the lungs, and in the blood circulating through the pulmonary capillaries during respiration.

The following are copies of the questions submitted on the same subjects as the above, to the junior candidates, viz.:—

1. Describe minutely the structure of the lungs, especially that of the air-tubes and air-cells, and the relation of the latter to the pulmonary capillaries. Describe also the movements, both in the lungs and in the parietes of the chest, which concur in order to effect the change of air in respiration.

2. Describe the ordinary chemical changes which occur during breathing in the blood and air, and the variations in those changes, which do not imply a deviation from health. State, also, the connexion of these changes with the temperature of the body, and with the maintenance of an uniformity of temperature in man and other warm-blooded animals.

3. Describe the movements of the heart, and explain the causes and conditions under which they are produced. State, also, the influence which the nervous system may be supposed to exert on the movements of the heart, both on those which are regular and ordinary, and on those which are irregular and occasional.

4. Describe the structure of the medulla oblongata, the connexion of its columns and fasciculi with the cerebrum, cerebellum, and spinal chord, and the origin of the nerves which proceed from it.

5. Describe the functions of the medulla oblongata, and of the nerves which proceed from it.

6. Enumerate the muscles which serve to erect the body and to maintain it in the upright posture, and the action of these muscles when so engaged. Describe also the action of the muscles which are especially exerted to balance the body in standing on one leg and at the same time on tip-toe.

N.B. Answers to any four of these questions will be accepted as sufficient, provided always that they are *accurate and adequate*.

The following questions in Surgery were submitted to the senior candidates on the 6th inst., viz:—

PATHOLOGY AND SURGERY.

No. 1.

1. In the two forms of Erysipelas, simple and phlegmonous, what are respectively the principal symptoms; what the course and termination; and what the treatment constitutional and local?

2. What is the treatment to be adopted in a case of wound of the Brachial Artery occurring in venesection?

3. Describe the treatment of Retention of Urine from stricture in the urethra, and the consequences which are to be apprehended when the retention is not relieved.

4. Describe the progress of a carbuncle from its commencement to its termination, when not arrested by treatment. Describe also the treatment, both constitutional and local, by which its progress may be arrested?

5. Describe the characters of Dislocations of the Shoulder-Joint, and the modes of reduction.

6. What is the effect of Opium on the system? What are the principal preparations which are in use? And what are the doses of each?

N.B. Answers to any four of these questions will be accepted as sufficient, provided always that they are *accurate* and *adequate*.

The following questions were submitted, on the same occasion, to the junior candidates, viz.:—

PATHOLOGY AND SURGERY.

No. 2.

1. Describe the nature and physiological consequences of Asphyxia, its causes, especially those depending upon irrespirable gases, and the more important remedial measures required.

2. State what is known with regard to the pathological changes in the blood.

3. Describe the principal varieties of the pulse, and in what respect they may be severally regarded as diagnostic of morbid conditions of the system.

4. Describe the morbid changes which take place in the urinary organs from long-continued irritation of the bladder or urethra; and explain in detail the causes of such changes.

5. Describe the different methods by which a calculus may be removed from the bladder, and what the circumstances under which they may be severally indicated.

6. Describe the various circumstances of surgical interest which attend a case of wounded intestine.

N.B. Answers to any four of these questions will be accepted as sufficient, provided always that they are *accurate* and *adequate*.

HEALTH OF LONDON DURING THE WEEK ENDING DEC. 1.

A considerable decrease is still shown in the number of deaths as compared with the average of five years, amounting to 231; the number of deaths, however, showing a slight increase on those of the five weeks previously. This increase appears to have taken place in deaths caused by diseases of the respiratory organs. In epidemic diseases the Returns give 173, while the autumnal average is 307. Cases of typhus have declined to 35, being 21 under the average; from cholera only 1 death is returned, the average being 8; this case occurred in the south-west division of the City, to a female, aged 27; the deceased sunk under debility, after two attacks. An infant of three months died of diarrhœa, of four days' duration, in 5, Whitting-street, Waterloo-road. The Registrar says:—"The grandfather of the deceased is also suffering from diarrhœa and sickness. The house is well drained, but it is in an unwholesome locality. The informant said that the water was dreadfully bad, and scarce fit to be used, which she imputes to the rotten state of the water-butt."

The mean temperature on Monday was 34·2; on Wednesday it fell to 26·1 (less than the average by 17·5); and rose at the latter end of the week to 40·0; the result for the week is a minus on a seven years' average of 9·1. The mean height of the barometer was 29·803. The reading increased from 29·25 in. at the beginning of the week to 30·03 by 9 h. p.m. on the 27th; it decreased to 29·69 by noon on the 30th; it increased to 30·00 by 3 p.m. on the 1st Dec., and then decreased to 29·96 at the end of the week. Positive electricity was indicated on Sunday, Monday, Tuesday, Wednesday, and Saturday; nothing shown on other days. The sky was overcast generally throughout the week with cirrostratus.

Appended to the present return is a valuable table, giving the population of the districts and sub-districts of London in 1841 and 1848; the deaths from cholera in the last thirteen weeks of 1848, and in the forty five weeks of 1849; the proportion of deaths to 10,000 inhabitants, and the number of inhabitants to every death.

MORTALITY TABLE,

(Metropolis.)

For the Week ending Saturday, Dec. 1, 1849.

Causes of Death.	Total.	Average of Five Autumns.
All Causes	931	1162
Specified Causes	928	1158
Zymotic (or Epidemic, Endemic, and Contagious) Diseases	173	307
Sporadic Diseases:		
Dropsy, Cancer and other Diseases of uncertain or variable seat	45	49
Tubercular Diseases	170	178
Diseases of the brain, Spinal Marrow, Nerves, and Senses	118	125
Diseases of the Heart and Blood-vessels	34	40
Diseases of the Lungs, and of the other Organs of Respiration	104	214
Diseases of the Stomach, Liver, and other Organs of Digestion	60	65
Diseases of the Kidneys, &c.	8	11
Childbirth, Diseases of the Uterus, &c.	12	10
Rheumatism, Diseases of the Bones, Joints &c.	6	8
Diseases of the Skin, Cellular Tissue, &c.	...	1
Malformations	8	4
Premature Birth and Debility	20	23
Atrophy	24	18
Age	45	57
Sudden	5	12
Violence, Privation, Cold, and Intemperance	11	36
Causes not Specified	3	4

The following is the number of Deaths occurring from some of the more important special causes:—

Apoplexy	30	Heart	28	Phthisis	134
Bronchitis ...	60	Hooping cough	23	Pneumonia ...	94
Cholera.........	1	Hydrocephalus	24	Scarlatina	37
Childbirth	4	Influenza	...	Small pox	5
Convulsions...	38	Liver	10	Stomach	4
Diarrhœa	17	Lungs	9	Teething	8
Dropsy	20	Measles	26	Typhus	35
Erysipelas ...	5	Paralysis	21	Uterus	[illegible]

BIRTHS AND DEATHS.

	Births.	Deaths.	Births over Deaths.
Males	668	489	179
Females	623	442	181
Total......	1291	931	360

METEOROLOGY OF THE WEEK.

Day.	Mean of Barometer.	Mean of Thermometer. Dry.	Ditto. Dew Point.	Difference between the Mean Temperature of the day and the same day on an average of 7 years.	General Direction of Wind. A.M.	General Direction of Wind. P.M.	Amount of Horizontal Movement of the Air.	Rain in Inches.	Electricity.*
Sunday	29·374	34·2	33·4	− 9·3	N.N.W.	N.W.	Miles 20	0·01	P. & tension strong.
Monday	29·774	32·3	27·3	−11·3	N.W. & N	N.E.	60	0·00	P. & tension strong.
Tuesday......	30·018	29·2	25·7	−14·4	N.E. & N	N. & N.N.E.	15	0·00	P. & tension variable.
Wednesday.	29·884	26·1	25·4	−17·5	N.N.E.	N.N.E. & S.E.	25	0·00	P. & ten. str. till 3 p.m. and weak afterwards.
Thursday ...	29·867	35·2	26·1	− 8·4	S.S.E. & S	S.S.E.	153	0·00	Nothing.
Friday	29·717	44·3	43·6	+ 0·8	S.S.E.	S.W. & N.	65	0·57	Nothing.
Saturday ...	29·986	40·0	37·1	− 3·3	W.	S.W. & S.	115	0·02	P. & tension strong.
Means ...	29·803	34·5	31·2	− 9·1	Variable		SUM 455	SUM 0·60	

* In this Column, A stands for Active; N. for Negative, and P. for Positive.

MEDICAL NEWS.

Apothecaries' Hall.—Names of Gentlemen who passed their examination in the Science and Practice of Medicine, and received Certificates to practise, on Thursday, 29th Nov., 1849: — Samuel Reynolds, Dubach; George Edwin Gains; Edward Humphrey Paget, Leicester.

Obituary.—On Sunday week, Mr. John Spencer Birch, Surgeon, of Blackburn. On the 30th ult. at Brompton Crescent, Thomas Gunning, Esq., Inspector-General Army Medical Department, aged 74. At the Cape, Dr. Deas, Surgeon-Superintendent of the Neptune, convict ship, and Dr. Munro, Surgeon of the Castor. On the 27th inst., at Longfleet, near Poole, Dorset, Robert Carruthers, Esq., M.D., Royal Navy. On Sunday last, at No. 12, Grove, Hackney, Mr. Edmund Sheffield, surgeon, aged 71. On the 3rd inst., at Burwood-place, Hyde Park, Louis Truefitt, Esq., Surgeon.

Naval Appointments.—Dr. Corbett, Assist.-Surg. to the Centaur, appointed to the Snap Tender; Mr. Walling, to be Assist.-Surg. to the Pluto; Howard R. Banks, Esq., to be Surgeon to the Terrible steam-frigate. Dr. Gibson, to be Surgeon-Superintendent of the Neptune, convict ship. Assistant-Surgeon King, to be Surgeon to the Euridice, vice Gibson, appointed to the Neptune. Assistant Surgeon Elliott to be Surgeon to the Castor, vice Dr. Munro, deceased.

Cholera in America.—The cholera has again made its appearance on the Mississippi river. Two steamers, both from New Orleans, had arrived at St. Louis with immigrants; on board one of these vessels there were thirty cases, seventeen of which proved fatal before arrival at that city.

Cretinism.—The Minister of the Interior lately presented to the King of Sardinia, the members of the Commission lately appointed in 1845, by His Majesty's father, the late Charles Albert, to study the causes and remedies of "cretinism." The Commission has made a report on the subject. The King was much affected when he learnt, from a perusal of the report, that more than 7,000 of his subjects were smitten with this disease, which is spread over 22 provinces of the States of Sardinia.

Munificent Bequest.—The late Mr. Lewis Morris Cuthbert, of Lyon Terrace, Maida Hill, has bequeathed 3,000*l.* to the Hospital for Consumption at Brompton, 1,000*l.* to the Royal Free Hospital, 500*l.* to University College Hospital, and 100*l.* to the Western General Dispensary.

The funds of the Royal Isle of Wight Infirmary have lately been increased by the donation of 1,500*l.* stock, under the will of the late Rev. George Atwick, M.A., who has devised 6,000*l.*, 3½ per cents., to be divided among four casualty hospitals.

Dietetic Relief to the Sick Poor.—The Board of Guardians of Birmingham have recently decided, on the suggestion of their chairman, that the power of ordering food to out-door paupers who may be unwell, at present vested in the parish surgeons, should be withdrawn, as it appeared that very injudicious orders had been made in several instances; one old woman, who was dying, having had 3lbs. rice, 1lb. sugar, and ¼lb tea ordered her at once. These Guardians require a little pressure from without to teach them humanity. It is monstrous to deprive the parish surgeon of the power of ordering food for a sick pauper—it is often, very often, more necessary than physic, and its refusal may lead to loss of life. In such a case the coroner should have early notice, and then, probably, the verdict of the jury may bring these gentlemen to their senses.

Cholera in Siam.—This pestilence has been committing fearful ravages in Siam. A few cases occurred on the 7th of June, but by the 29th it had increased so much that eighty bodies were taken to a single "wât" for burning. Subsequently the number of deaths was so great that it was found impossible to burn all the bodies; many were buried, and multitudes thrown into the river just as they died. In many of the "wâts," nearly 400 were buried in a day. They were brought and laid in piles, and fuel applied, when they were consumed like heaps of logs. During the 19th, 22nd, and 23rd of June, from 2000 to 3000 died daily; at the end of twelve days it was known that more than 20,000 had fallen victims. It has abated since, but by no means ceased. The mortality has been less among the Chinese than among other classes in Bang-Kok.

TO CORRESPONDENTS.

We have received a letter from Mr. Theodore Davis, of Tickenham, near Bristol, and one from Mr. Ogilvie, of Ridgeway-house, in reference to our Editorial Article on "The Gloucestershire Private Madhouses." Both our Correspondents complain of the "one sided" nature of the Report of the Chairman of the Board of Visiters, Mr. P. B. Purnell; and Mr. Ogilvie says, "there was not one word in it worthy of credence or regard." We have no wish whatever but to see justice done to all parties. The proprietor of a private asylum has committed to him an important trust. He is liable, we are aware, to suffer from misrepresentations, and hence it is the duty of visiters to see that even-handed justice is administered. If Mr. Purnell's "Report" is such a document as our correspondents represent it, we are astonished that the magistrates of the county of Gloucester should have given credence to it, or, as Mr. Ogilvie states, "should support him." It is our wish, that the proprietor of Ridgeway-house may entirely set himself right with the profession, the public, and the county magistrates; and we shall not be backward in advocating his cause where truth requires.

"Dr. Clay's Operation."—H. A. complains that, in our recent notice of Dr. Clay's work, our Reviewer only takes cognizance of three cases, leading to the belief that these are the only cases operated on, whereas there are, altogether, forty-one cases, including five exploratory operations. Of true ovarian tumours there are thirty-three operations, and twenty-three of them are successful. Our Correspondent states, that the Reviewer's chief objections to the operation are the uncertainty of diagnosis between a tumour of the uterus and a diseased ovary, the extent of the adhesions, the magnitude of the pedicle and its vascularity, and the number of blood-vessels extending from the diseased ovary to the contiguous viscera. These H. A. considers no valid objections, as, in many other diseases requiring operation, the diagnosis is often uncertain. He says that once he was prejudiced against the operation; and thinks that a patient of his, an interesting female, labouring under ovarian disease, and who was not operated upon, might have been saved had this been the case. He also mentions the case of a married female, in whom the adhesions were very extensive, and required great care at the time Dr. Clay operated, to separate them. The patient perfectly recovered. H. A. thinks that any person coming to so hasty a conclusion, as our Reviewer, should have suggested some other resource. We congratulate Dr. Clay on the success which has attended his operations; but we are compelled to state, that the experience of other eminent Surgeons is not in favour of the large incision.

We propose next week to commence a series of eight or ten Clinical Lectures on some Diseases of the Heart and Lungs, by Dr. Parkes, Professor of Clinical Medicine at University College. We have also pleasure in announcing a series of papers on Puerperal Mania, by Dr. Lightfoot.

"Dr. Spencer Thomson, of Haunton, Burton on-Trent, has favoured us with a paper "on the Vesicles of Torule in Urine," with illustrative drawings. We shall avail ourselves of the earliest opportunity of inserting the communication.

A Correspondent has forwarded to us the following, and justly asks, "How can we ever become respectable when such documents are issued and no notice is taken of them by members of the profession?—'Dr. ———, Surgeon, begs respectfully to acquaint the inhabitants of Lanchester and its vicinity, that he has commenced practising as surgeon and accoucheur at Lanchester, and trusts from the knowledge he has acquired in his profession to merit the support of the neighbourhood —November, 1849.'"

"L. M." asks:—"Can you inform me, or, if not, would Mr. M'Dougall state, which is the best method of applying the nitrate of silver to the urethra in cases of spermatorrhœa?"

[We shall be obliged to Correspondents who apply to us upon this subject to address their inquiries to its Professors. Mr. M'Dougall has published a work upon Spermatorrhœa, which L. M. will probably consult with advantage.]

"Mr. Yearsley's" reprint of a new mode of treating diseased Tympana by the application of the hydrated cotton, constituting an artificial tympanum, has been received. We hope to publish, in an early Number, a communication from "Mr Harvey," on "The Artificial Tympanum," to which we may, probably, append some remarks.

"Mr. Marshall, of Islington," must have laboured under some strange delusion when he forwarded the communication and testimonials with which he has honoured (?) us. His papers lie at our office; he can have them on application.

"Mr. H. P. Fuller" will find that it is his mistake, not ours.

The request of our friend at Birmingham will be attended to.

We shall endeavour to publish Mr. McClure's paper next week, and send "a proof," as requested.

We regret that the Report from University College Hospital reached us too late for this week's number.

"A Reader" asks, "What is a deadly poison?" One that proves quickly fatal in small doses.

"G. B., Suffolk," is doubtful as to the amount of fibrine in the human blood. It forms about a 1-500th part.

"Civilian."—"Is a gun-shot wound what may be denominated contused?" Yes.

"Truth Seeker."—"Can a child born before the seventh month live?" Cases have been recorded of instances of this kind. One was published in the "Medical Times" about eighteen months ago.

ORIGINAL LECTURES.

CLINICAL LECTURE ON SOME DISEASES OF THE TESTIS.(a) DELIVERED AT UNIVERSITY COLLEGE HOSPITAL,

By R. QUAIN, F.R.S.,
Professor of Clinical Surgery in University College, Surgeon to University College Hospital.

[Reported by EDMUND CARVER, M.R.C.S., lately House-Surgeon to the Hospital.]

We have lately, gentlemen, received into our wards two persons suffering from different forms of disease of the testis, to whose cases, and if there should be time enough, to that of an out-patient who is under treatment for disease of the same part I wish to direct your attention to-day. This is the history of one of the cases abridged from the report in the case-book.

A. Tucker, aged 30, admitted into the hospital 30th January, on account of an enlargement of both testes, is of stout conformation; has usually had good health, interrupted only by two or three attacks of gonorrhœa and syphilis. Of the latter disease he has still some indication in a few livor-coloured spots or stains upon the thorax. He has been in the habit of drinking large quantities of beer daily.

About fifteen months ago, immediately after jumping from a wall twelve feet high, and having been previously, for a considerable period in good health, the patient felt a sudden pain in the back. A short time afterwards, he can't say how soon, he observed a swelling of the right testis, small at first but quickly increasing, till the gland reached the size of a small gourd. He states that the swelling has remained stationary for the last four months. Now it measures ten inches in circumference, and six from the upper to the lower end. Upon the anterior surface the skin is reddened, in consequence of the application of iodine previously to his entering the hospital. The swelling is generally hard, but it yields in a slight degree to the pressure of the finger; and upon the fore part, near the upper end, fluctuation is felt to about the extent of a shilling. The reddened skin is adherent to the subjacent tumour, and it is at the upper end of this that the fluctuation exists. Not a trace of the epididymis is to be distinguished. There is apparently a degree of thickening of the vessels of the cord, and the vas deferens feels somewhat enlarged. No pain is caused upon any of the parts being manipulated.

Some three months since the left testis began to swell much in the same way as the other; th which it is now considerably smaller. The gland is hard to the touch over its whole surface; it is of uniform density; but there is a degree more of firmness at the posterior part in the situation of the epididymis than elsewhere. The skin on this side is natural; it has no connexion anywhere with the tumour. The vessels of the cord and the vas deferens are slightly thickened, but they do not seem at all in an unhealthy condition.

A few veins are plainly seen upon the posterior surface of the scrotum. They are not, however, particularly enlarged or numerous; there are none distinguishable on the anterior aspect of the same part.

Sharp shooting pains are occasionally felt in the testes, and extending upwards to the groins. These uneasy sensations are usually but momentary in their duration.

The patient states that his health has been impaired since the commencement of the disease, and that he is now less vigorous, less able to do his usual work than formerly. He has, too, a feeling of sickness; his face is sallow—"has lost colour," he says. The conjunctivæ are tinged yellow, and his tongue is covered with a yellowish creamy fur.

There is no tenderness on pressure in either iliac fossa; and there is neither tumour nor any appearance of fulness in the same situation, or in any other part of the abdomen. But the right rectus muscle is felt to be rigid towards its upper end. A degree of uneasiness is likewise produced by pressure over the muscle in this situation; at the same time the sound elicited by light percussion, made near to the margin of the thorax, is quite clear, except in the neighbourhood of the sternum. The corresponding part of the left rectus is notably different from the muscle of the right side. It is soft and yielding, and no uneasy sensation is occasioned by pressure upon it.

Observations.—The first object we have to attain in this case, as in all other cases, is to determine the nature of the disease, for the conclusion arrived at respecting this point determines our after-proceedings. Any morbid condition of the scrotum itself is easily distinguishable by the appearance and feel of the part, the skin and subjacent cellular membrane being involved; and as these parts are free from tumefaction in our patient, our attention will be restricted to the diseases of the two subjacent structures, namely, the testis and its serous investing membrane, the tunica vaginalis. It is necessary we should refer to both these parts, because certain of their diseases are liable to be confounded.

Inasmuch as the diseases of the gland itself are more or less solid, while the serous membrane, wherein a morbid state, contains fluid, we have in the first place to ascertain whether the tumour is due to the presence of fluid or to a solid deposit—in other words, whether it is a hydrocele or a sarcocele. In ordinary cases, hydrocele is easily distinguished from other diseases by its translucency, which is rendered apparent in the way commonly practised, namely, by the light of a candle in a darkened place. But the diagnosis becomes occasionally difficult, the difficulty depending on these circumstances, viz.:—that the hydrocele may lose all translucency in consequence either of the fluid becoming opaque (as by the admixture of blood), or the investing membrane being thickened to such a degree as no longer to transmit light. And should these changes, namely, the increased thickness of the membrane and the alteration in the colour of the fluid, be present in the same case, the difficulty of the diagnosis is much augmented, for the hydrocele thus loses its best distinctive character, while, on the other hand, all the remaining diagnostic marks (its smoothness, its shape, its elasticity) may be very closely simulated by disease of the gland itself. I cannot, perhaps, better prove to you how obscure the diagnosis may become than by mentioning that I saw the late Mr. Liston, in this hospital, extirpate a hydrocele under the belief that the tumour was a diseased testis. I happen to be aware, too, that Mr. Liston had previously inquired with some care into the nature of the disease, for when I grasped the tumour to assist in the operation (having then seen it for the first time), I remarked how much it had the smoothness and shape of a hydrocele; whereupon Mr. Liston pointed out the puncture-mark of an instrument upon the scrotum, intimating at the same time that he had carefully looked into the case. He had, in fact, a short time previously, tapped the tunica vaginalis, drawing off some coffee-coloured fluid; and it was in consequence of the examination then made that the extirpation of the part, supposed to be a diseased gland, was judged necessary. The preparation which is before you shows the tunica vaginalis enlarged and much thickened, and within it is contained, occupying, however, only a small part of the cavity, some fibrine, with a clot of blood. The testis is healthy, though apparently somewhat atrophied.—This too is so far from being a solitary case, that it has occurred to most surgeons of experience either to witness or to make a mistake of the kind. Sir Astley Cooper, treating of the diagnosis of some of the diseases of the same organ, speaks in these terms—"But still the distinction (between 'fungoid disease' of the testis and hydrocele), is sometimes difficult, and all candid persons will confess they have erred, and when they have believed it water have found it solid. Mr. Pott, Mr. Hunter, Mr. Cline, and many others have been thus deceived, and I am ready to confess that I have more than once been mistaken.—(" Observations on the Structure and diseases of the Testis," p. 128.) The mistakes spoken of in this extract appear to have consisted in a disease of the gland being taken for a hydrocele. The converse of this is illustrated in the case previously adverted to.

Seeing, then, that surgeons of the highest character, including one with whose great experience and unquestionable practical tact we had long and intimate acquaintance in this place, erred in the diagnosis of diseases of the testis, you will be prepared to believe that much caution ought to be exercised when it is sought to distinguish between some at least of those diseases. You will at the same time be prepared to learn, that the examination of a single case may involve, nay in many cases must involve, the consideration of several of the diseases to which the organ is liable, because, in order to arrive at a satisfactory conclusion as to what the morbid condition in a particular instance is, it is generally useful, often very necessary, to determine in the first place what it is not.

And now we return to the appreciation of the facts of the case before us. The translucency, the pyriform shape, the uniform yielding all over, or nearly all over, to pressure, which usually belong to hydrocele, are not present in it; while the great comparative weight of the mass, the adhesion of the tumour to the skin, the general hardness, accompanied with fluctuation at one point, which are present here, are so many positive signs of the tumour being a solid one, of the disease, therefore, being seated in the testis itself,—for the occurrence of any solid deposit in connexion with the tunica vaginalis, is so rare that it need not enter into our calculation. Taken individually, some of the signs enumerated might lead to an erroneous conclusion, but, in their combination they leave no room for doubt as to the seat of the disease.

In the next place it becomes necessary to decide upon the nature of the solid contents of the mass—to decide, especially, whether it is encephaloid matter, [soft cancer], or one of the "non-malignant" formations to which the testis is liable, for instance, the commonest form of these, "the simple chronic enlargement." Upon the solution of this question depends the plan of treatment to be pursued.

There is no certain sign by which encephaloid disease may be distinguished at an early stage of its growth. It is indeed true, that the body of the gland is the part first affected with this so named "malignant" deposit, and that it is only by extension from that part that the epididymis becomes involved. This fact is illustrated by the preparations and the drawings of cases before you in which I removed the glands from persons suffering under the disease alluded to, as well as from the bodies of others who died in consequence of it. It is likewise true, that in the "chronic enlargement," the epididymis is commonly the starting point for the morbid alteration. Inasmuch, however, as it is not invariably so, the help which the difference of the place of origin for the morbid deposit in the two cases is calculated to afford in the diagnosis is very limited, the more so because so little is the inconvenience caused by either disease at its outset, that the surgeon is usually not consulted till the time for taking advantage of it has passed. The time had long passed in Tucker's case.

Besides, when disease affects the gland itself, the fibrous investment of this being very dense, no sufficient evidence can be attained by the touch respecting the character of the deposit beneath it, while the tunic is in its natural state. But, as the disease advances, the membrane, under the influence of the pressure of the increasing tumour and of the morbid action set up in its neighbourhood, becomes altered so much that it no longer masks the character of the substance contained within. Moreover, other concurrent changes are taking place, which assist the diagnosis; and, before the mass has attained the size of either of the testes in the case under our observation, we find, in encephaloid disease, (only to refer to the most prominent characteristic signs,) that amid the general firm

(a) The observations here placed together as a single lecture were made partly when the patients were admitted at the hospital, and partly at the close of their stay in it.

resistance to pressure, some parts of the mass yield to the finger, and communicate a feeling of elasticity. Enlarged veins at the same time become manifest beneath the integument of the scrotum. The patient's health suffers the while; he has a general feeling of depression; his countenance becomes sallow; he loses flesh. Finally, the morbid deposit becomes manifest elsewhere—in the abdomen or thorax, but most frequently, according to my own observation, in connexion with the lymphatic glands before the lumbar vertebræ. To this it must be added, that the disease is confined to one of the testes, that its progress is usually rapid, and that it attains a large size.

In the disease of the gland known as the "chronic enlargement," the tumour attains a large size, it may be with considerable rapidity; it is generally unyielding to pressure, but fluctuation often occurs at a point, and a part of the glandular substance is liable to be protruded. Both the glands are in some instances affected, first one, and then the other. The general health is not impaired as a consequence of this disease; and other organs do not become affected by it.

Now, in our case the tumour has no feeling of elasticity; it is uniformly hard, except at one point where fluctuation is felt; the veins of the scrotum have not undergone any considerable augmentation of size; and both testes are much enlarged. While, therefore, the physical signs which characterize encephaloid disease are wanting, those which belong to the chronic enlargement are present. But, on the other hand, our patient has materially suffered in his health. There is, we have seen, sallowness of his face, with loss of flesh, and general depression. There is likewise evidence of disease in the abdomen; and, though no tumour is discernible in the lumbar region or elsewhere in that cavity, still the tenderness to pressure over the liver, or in its neighbourhood, affords grounds for a suspicion which must be cleared up. If the general ailment and abdominal symptoms be unconnected with the disease within the scrotum, they will, in all probability, yield to medical treatment, while, on the contrary, if they be the result of that disease, that is to say, an extension of it, no medicine that we know of, is likely to produce any material temporary amelioration, much less a permanent one. In order that you should estimate strictly the evidence the local symptoms afford in favour of the non-malignant character of the disease, I should here mention, that though very strong, it is not so complete, as to put aside all circumstances telling in the opposite direction. The facts of which it is made up, even when combined, do not afford conclusive evidence, such as, for example, the single fact of translucency does respecting the presence of a hydrocele. For, to take one of the signs relied on, viz., the enlargement of both the glands at the same time: I have adduced this as a proof, among others, of the disease in Tucker's case, not being "malignant." I have done so, because no example of disease which may be so designated has been seen by myself, or, so far I can learn, by the most experienced pathologists, to affect both testes at the same time. The fact is valuable in aid of others, but it must not be implicitly relied on in the diagnosis, inasmuch as there is nothing in the nature of things, nothing that I know of in the laws that regulate the formation of the morbid deposit in question, to render its co-existence in both the glands impossible. Observations of a similar kind might justly be made concerning other parts of the same evidence. We proceed, then, to the treatment of the case with the strong expectation, but not the certainty, that the abdominal symptoms will prove to be accidental: in other words, that they will prove to be independent of the disease within the scrotum.

The patient will, for a time, be kept in bed. This is no unimportant part of the management of his case. It is adopted, with these views, namely, to facilitate, by the position, the return of blood, to remove, at the same time, in the most effectual manner, the distress occasioned by the weight of so large a mass appended to the body by only the slender cord and a small fold of integument, and likewise to gain the advantage anticipated from a uniform warm temperature on the surface of the body. The use of mercurial medicine is decidedly indicated, and on these grounds, viz.:—1st. There is some biliary derangement; 2ndly. The medicine has a well ascertained effect in causing the removal of the deposit which constitutes the "chronic enlargement" of the testis; 3rdly. Although the skin-stain, noticed in the report as probably remaining from syphilitic disease, is not in itself,—that is to say, the person being in good health, and without any other indication of that disease, sufficient to require the administration of any medicine (I find it yield readily, in such circumstances, to an alkaline lotion,) still its association in this case, with general want of health, and with other disease, rendering the administration of mercury adviseable, is a reason the more for prescribing that medicine.

I now continue the abridged Report:—Hitherto no medicine has been taken by this patient with a view to control the disease. He was now ordered to keep in the horizontal position in his bed, or upon it; to have the testis supported properly; and to take blue pill and senna mixture as a purgative. For a few days afterwards he took this draught thrice a day:—Potas. carb. gr. x.; infusi gentianæ co. ℥i.; aquæ menth. pip. ℥ss. M. ft. haustus. The regular use of the following medicine was then begun:—Hydrarg. chlorid., gr. ij., in a pill night and morning, with potassæ iod., gr. iij; liquor. potassæ, ♏ x.; infusi cascarillæ, ℥i. in a draught, to be taken thrice a day.

This treatment being continued for a fortnight, the improvement was very decided. Now, the patient states, that he has not felt so well for the space of twelve months as he does at present. His health evidently is much improved; countenance better; appetite returned. But where fluctuation existed upon the scrotum, the skin has given way, and some curdy matter has escaped. In the breach of the skin, which is about the size of a sixpence, a dirty yellowish substance, of firm texture, is seen. The gums being tender, the dose of calomel was diminished to one grain, to be given once in the day.

After the lapse of another week the patient requested permission to leave the Hospital, in order to make some pressing business arrangements. At this period his condition is reported to be in all respects decidedly improved. His countenance, it is said, has lost the sallowness of hue, and the eyes have become free from the yellow tinge they had when he was admitted into the Hospital. There is, moreover, no uneasiness felt upon pressure being made over the abdomen, and the rigid state of the right rectus muscle has been altogether removed. At the same time, the left testis is clearly diminished in size. The medicines to be continued after the patient's return home. The scrotum to be well supported.

He showed himself subsequently from time to time at the Hospital. The opening in the skin over the right testis continued to enlarge, and the discharge increased. The left testis went on to decrease in size.

March 12.—Tucker is re-admitted, with the view of having the tumour on right side removed. He is now in very good health. The opening in the integuments over the right testis has attained the size of a crown piece. In the breach is seen the same kind of firm yellowish substance, and this does not project beyond the surface. As it was ascertained that he had been living intemperately for some time, he was kept in the Hospital several days, and took aperient medicine as a preparation for the operation.

In the operation, which was performed while the patient was insensible from the use of chloroform, a considerable extent of the skin was left upon the tumour. It was included with the ulcerated part between two elliptical incisions. Several small arteries required ligature.

During the two following days the patient, after having vomited some bilious matter, was troubled with pain at the epigastrium, and frequent eructations, from which he was relieved by warm stimulating applications to the abdomen, and the use of carbonate of soda, with tr. of cardamoms in mint water, taken at intervals. The disturbance, it may be added, was attributed by the patient himself to the chloroform. With little interruption, however, the case continued to advance steadily to its favourable termination. Being unwilling to remain longer absent from his occupations, our patient left the Hospital with a very small cicatrix marking the place of the operation. The left testis being still enlarged, he was directed to continue to attend as an out-patient.

June 16.—Tucker has not attended regularly since his dismissal from the wards of the hospital. He came, however, to-day, and his condition was found to be in every respect satisfactory. His health appeared quite established, vigorous in fact; and the left testis is still further diminished in size. The iodide of potassium, with liquor potassæ, to be continued as before, and at the same time a dose of blue pill, with extract of henbane, to be taken every night, instead of the calomel.

Observations.—The report states correctly that Tucker was re-admitted into the hospital for the removal of the right testis—if such the mass might still be called. His health having been much benefited, and the testis last affected and least involved in the disease having been diminished in size under the treatment adopted, all the apprehensions which the previous state of the patient's health was calculated to excite, had ceased. But why was the operation necessary? Could not the disease be removed by remedial means? The answer to such questions may be thus stated:—The "chronic enlargement" of the testes (of which disease we anticipate this case to be an example) consists in the deposit of plastic matter or lymph of yellow colour in the substance of the testis and in the epididymis, in consequence of a slow form of inflammation. At an early period, the secretion of this deposit is arrested, and the absorption of that already formed is best promoted by the use of medicine such as that administered in this case; but when the disease is far advanced, the natural structure of the gland is destroyed, and the accumulation of the adventitious substance is such that all hope of its removal by a natural process is at an end. To this condition the larger tumour in our patient seemed to have arrived, and this judgment respecting it was borne out by the circumstance that the medicine already used had produced no material effect upon it. On these grounds, I determined to extirpate the tumour of the right side, and then to return to the use of medicine with a view to restore the remaining gland to a healthy state. Here I may anticipate so far as to say, that unfortunately the patient, feeling himself in good health, and suffering no inconvenience from the local disease, has neglected to attend at the hospital; and it is not unlikely that this neglect will continue until it will be too late to check the progress of the disease in the remaining organ.

Upon the operation the only remark I think it needful to make at present has regard to the fact, that it was necessary to dissect the integument from the tumour, or the tumour from the integument, almost at every point. It sometimes happens that the separation between the two may be effected with little trouble, even in great part with the fingers. On the other hand, I have in some other instances seen the connexion between those parts equally close with that noticed in the operation upon our present patient. I would especially mention Mr. Liston's case alluded to in a former part of this lecture. It seems to me that the difference which occurs with respect to the point here adverted to, viz., the degree of connexion between the scrotum and the tumour, results from the greater or less proximity to the former of that excited action which attends the disease, and the common effect of which is to create an unnatural adhesion of parts. In Tucker's case the skin was adherent for some extent, and ulceration had taken place in it. In hydrocele, too, the part affected is but little removed from the skin; besides, in the example of this disease which has been adverted to, the tunica vaginalis was more than usually thickened. On the contrary, in many cases of diseased testis, whatever increased vascular action may be

present is well removed from the surface, and an unnatural connexion between the integument and the subjacent part, is on this account less likely to take place. The independence, moreover, of the vascular supply to the gland and to its investment, must not be forgotten in accounting for the various degrees of facility with which a tumour may be "turned out" from the scrotum in one case and another.

Examination of the Tumour.—There is no trace of the tunica vaginalis. The morbid mass, which is covered with a cellulo-fibrous membrane, consists for the most part of two portions of yellow, rather tough substance, obviously plastic matter or lymph. This substance is identical with that which forms the small yellow nodules deposited in the early stages of the chronic inflammation of the testis. Between the two masses into which this plastic matter is aggregated, there is interposed a quantity, varying in breadth from half an inch to an inch and a half, of whitish fibro-cellular tissue. Not a vestige of the glandular structure can be found. None of the seminal ducts beyond the vas deferens are discernible, even with the aid of a microscope. Doubtless the tubes have been altogether destroyed by the accumulation of the yellow substance, the deposit of which, in fact, constituted the disease.

[To be continued.]

LECTURES ON CLINICAL MEDICINE,

DELIVERED AT UNIVERSITY COLLEGE HOSPITAL.

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LECTURE I.

GENTLEMEN,—There is no class of diseases whose study I should more strongly recommend to the student of Clinical Medicine, at the outset of his investigations, than the affections of the heart. For, independent of the numerous diseases which are proper to this organ, or have from it their starting point, there is perhaps no other organ which, by reason of its function and office, is so frequently implicated in the diseases of other parts. Every change in the quantity or quality of the blood makes itself felt here; every alteration in the dynamic condition of the other large organs produces here its peculiar sign; every moral or physical impression on the nervous system has a more or less direct and lasting influence upon the great organ of the circulation. So well is this known and appreciated, that we constantly refer to the action of the heart as a measurement, and, in some cases, an indication of local or general disease; and although, from the immense number of phenomena, the conditions represented by the numerous shades of difference in its action are even yet imperfectly understood, we are daily acquiring more knowledge of the phenomena, and more certainty as to the antecedents of which they are the symbols.

Our knowledge of special heart diseases, also, has wonderfully increased during the last few years. It has attained, indeed, in some points extreme exactitude; and, although there are still many cases in which the diagnosis is excessively difficult, in the majority we are enabled to arrive at certain results.

Without further preamble, however, let me enter on the consideration of the case I am about to bring before you. I shall make no apology for considering it somewhat minutely, as the discussion of a single case of this kind allows us sometimes to gain a comprehensive glance over many cardiac diseases.

On the 12th of July, on entering into my female ward, I found there a new patient, a young woman of the name of Mary Gartland, aged 24. My assistant told me it was a case of dropsy, and the first glance at the patient suggested the probable nature of the disease. The woman was sitting up in bed, propped up by pillows; she was more than sitting up, she was leaning forward; her arms were thrown in front and extended at length; she was breathing very rapidly and laboriously; every three or four minutes a violent paroxysm of hard cough came on, which was followed by scarcely any expectoration. The expression was anxious and fatigued; the lips were red, but darker than usual; the cheeks rather darkly flushed; the eyes prominent and watery. There was extreme anasarca of the lower extremities; the abdomen was distended, and the first tap upon it informed us that there was a large quantity of fluid in the peritoneum.

These few symptoms, collected at the first glance, led at once to a suspicion of disease in or about the heart, possibly with lung disease superadded, as common in such cases. The very aspect of the countenance, apart altogether from the peculiar attitude, the dyspnœa, and the cough, would have distinguished this case from one of renal dropsy. But of course our suspicion was quite provisional, and subject to the confirmation of the subsequent examination.

What, now, was the history of this case? The patient was a servant, of original strong conformation, and even on admission not at all emaciated; she had always lived well; was unmarried, and had had tolerable health, with the exception of occasional cough, till within the last three or four years. She then suffered for some time from cough and dyspnœa, and was eventually (in February, 1848) admitted into the Brompton Hospital; she nearly lost her cough while there, and left the hospital much improved; she then, after some period of rest, went again into service, and lived in a damp kitchen; after stopping here a short time, she fell ill of some complaint of which she gave no definite account, except that she was in bed for a week, felt very ill, and had "spasm of the stomach and chest," but did not cough or expectorate. Recovering partly from this she remained weak and ill, and suffered from palpitation.* Five weeks before admission she had an attack of violent vomiting, and this was succeeded by frequent attacks of vomiting for about a fortnight. About three weeks before admission she noticed that the feet and ankles, and the abdomen shortly afterwards, began to swell.

Her father died at sixty years of age, of, she says, phthisis; her mother at about the same age. Has several brothers and sisters, all in good health. Never had rheumatism; slight hæmoptysis shortly before admission.

Such was the previous history. Examination gave us the following particulars:—

I have already mentioned certain symptoms which led us to anticipate some disease of the heart, and probably of the lungs; what, then, were the states of these organs; and, first, of the heart:—

There appeared to be no undue prominence of the præcordial region. The apex of the heart was beating between the sixth and seventh ribs, nearly close to the sternum; the impulse was extremely irregular and unequal. Frequently the irregularity was so great, that nothing like regular order could be made out. At other times a feeble beat was rapidly followed by a powerful impulse, this again by a feeble beat, and then there was a long pause, after which the same sequences were repeated. There was no undulation or purring thrill; there was no pulsation in the neck, either arterial or venous. The præcordial dullness was considerable; its limits were at first not well-defined, on account of the difficulty of keeping the patient in the recumbent position; but it was made out that the right border was to the right of the sternum; the upper border was a little above the fourth rib; the outer border was undefined, on account of a large mamma, but was far to the left. There was then considerable increase of dullness, chiefly to the right and downwards. The heart, therefore, was manifestly larger than usual; for the extension to the right and downwards, and the non-extension upwards, independent of other symptoms subsequently ascertained, rendered the supposition of pericardial effusion very unlikely, and this is the only other common disease which gives rise to increased præcordial dullness. And, supposing that there was no displacement from great pleural effusion, which we afterwards proved there was not, it was plain that the enlargement was chiefly of the right ventricle, which thus had extended so much more to the right than usual.

But what light did auscultation throw on the size of the heart, and particularly on the condition of the orifices? At the base the sounds were generally so confused and intermingled, that for some time nothing could be made out; but, after two or three examinations, I satisfied myself that there was probably no bruit at this point; certainly none in the arteries of the neck. At the apex, on the first day of examination, there was a distinct softish systolic bruit accompanying the strongest impulse, and which was at its maximum, not at the apex but outside it; occasionally this murmur was lost, and we heard nothing but a series of confused sounds, which all appeared, however, to be systolic; to the right of the sternum the bruit was louder than to the immediate left of the sternum. There did not appear to be any second sound at all audible at the apex at the first or second examination. Afterwards we heard the second sound frequently; it was often reduplicate. Subsequent examinations did not disclose anything more; always there was an extreme irregularity, a systolic murmur, most marked at the apex of the left ventricle or at little outside it; reduplication of the second sound at the apex, and occasional absence of this sound.

The radial pulse was excessively irregular, rather hard, and very small—not locomotive. There was no increased dullness at the top of the sternum, or signs derived from the neck.

What, then, was the condition of this heart?

It was, as I have said, enlarged; *i. e.*, dilated and probably hypertrophied, as the impulse was often strong, and there was a good volume of sound, which was moderately muffled, as it frequently is in hypertrophy. We concluded that there was regurgitant mitral disease, inasmuch as there was a systolic murmur far to the left, and I concluded that there was tricuspid regurgitation, because, 1. There was also a murmur at the right apex, heard very loud sometimes to the right of the sternum, becoming fainter as we passed to the left, and then increasing again as the mamma was approached; and 2. Because there was manifest enlargement of the right ventricle and general dropsy, both of which conditions are frequently the consequence (the first, sometimes the cause) of tricuspid regurgitation. The absence of any signs derived from jugular pulsation, did not shake my opinion, inasmuch as it is necessary, before this sign of tricuspid regurgitation can occur to any marked extent, that the valves at the junction of the internal jugulars and subclavian veins shall be ruptured; then occurs the jugular pulsation from reflux, and sometimes refilling of the vein from below when the current is arrested above, or if the rupture be complete, absolute refilling at every systole; but in this case, as in many others in which considerable dilatation is combined with tricuspid regurgitant disease, the arrest of blood in the auricle, thence in the venous system generally, will cause general dropsy without absolute regurgitation through the large veins.

What was the condition of the aortic and pulmonary valves? We were enabled to determine nothing positive about them, on account of the irregularity of the heart's action; there was no decided murmur at the base, yet this, with the kind of heart we had before us, was negative evidence of no great value; for it is a fact which you will have frequent opportunities of confirming, that to develope a murmur at the aortic orifice, either obstructive or regurgitant, you must have a good current of blood. In this case the flow of blood was very feeble, on account of the general stagnation of the circulation, and also because, as we shall presently notice, the lungs were in a congested state, and allowed comparatively little blood to pass through them. Therefore the condition of the arterial orifices remained doubtful, but I was on the whole inclined to believe them tolerably sound.

What was the condition of the pericardium?—a question we ought always to ask in these cardiac affections. We had no symptoms of any kind directly derived from the pericardium. There appeared to be no increase of percussion dulness, attributable to pericardiac effusion; there was no

friction now, or at any subsequent time. There were two symptoms present which have been referred to pericardiac adhesions, viz., an irregular action, and a diminution merging into a loss of the second sound. But these signs, although they correspond occasionally with pericardiac adhesion, are by no means confined to this state, or are even necessary to it. In hearts whose cavities are all dilated, irregularity is almost a constant symptom, and, in this condition, the jogging, tumbling, tumultuous action described by some writers, as significant of adhesions, also frequently exist. The loss of the second sound, too, does not always occur in pericardiac adhesions, occurs in other cases, and is, in fact, merely coincident with, and not dependent on, adhesions. Besides, in this case, the second sound was occasionally heard at the apex, and generally at the base. One consideration made me decide against pericardial disease, and this was the fact, that the patient said she had never had rheumatism, and that she certainly did not labour under Bright's disease. Now, as I mentioned to you in a former Lecture, these are the most important of the six diseases, in the course of which pericarditis may come on; (viz., acute rheumatism, Bright's disease, phlebitis, pleurisy, poisoning of the blood in certain so-called zymotic diseases, and scurvy,) and as these, with probably all the other causes of pericarditis, were now, and had been always, absent in this case, I decided against pericardial disease.

What, now, was the condition of the muscular substance? Was the hypertrophy accompanied by fat deposition, either external or internal, to the sarcolemma? We had no evidence as to this point, except in the fact, that the heart contracted occasionally very forcibly, which did not look like a fatty heart, and that the patient was younger than most subjects of fatty heart appear to be.

Thus, to sum up. We supposed we had a heart enlarged and hypertrophied in all its cavities,—in both ventricles certainly,—and, according to the usual course of such affections, both auricles being dilated and thickened to some extent; the mitral and tricuspid valves being incompetent; the aortic valves possibly diseased, the condition of which, however, could not be accurately made out; the pericardium being healthy.

Now, let me so far anticipate the history as to state, that the patient died a month after admission into Hospital. What was the state of the heart after death?

In the first place, the heart lay under the sternum, the right and left cartilages; it was nearly uncovered by lung, and much enlarged, weighing 14 oz. Instead of the pericardium being healthy, it was everywhere adherent by old, firm cellular tissue, so dense as to be separated with difficulty from the heart. All the cavities were of great size; the walls of all were thickened; the auricles were more enlarged and hypertrophied in proportion than the ventricles, but the ventricles were also thickened: thus, at the base, the walls of the right ventricle were half an inch; at the apex, a quarter of an inch thick; the walls of the left ventricle were seven-eighths of an inch thick at the base, half an inch at the apex; the muscular substance appeared coarse and dark coloured, there was a little mottling on some of the columnæ carneæ in the right ventricle. In all the cavities there were enormous clots. The state of the endocardium and valves was as follows: —In the left auricle, the endocardium was opaque, of a dead white colour, and much thickened; also, there was a dense, firm, white, fibrous-looking layer beneath it, from which it could be raised very readily; this was most conspicuous in the auricle, but passed into the ventricle, being lost in its lower half; the mitral orifice was contracted; it admitted the fore finger, but scarcely allowed the tips of two fingers to enter; on looking at it from above, the ring seemed corrugated; stretched out, the circumference was three inches; the flaps were extremely thickened, particularly along the free borders, which were rounded; the thickening arose from a firm fibrous layer between the folds of opaque endocardium, the cordæ tendineæ were shortened and thickened; it was not clear that the flaps were incompetent to close the opening, although they may have been so. The aortic valves did not support a column of water; the orifice was contracted, and, when stretched out, measured only 2½ inches in circumference; the flaps were thick, rigid, and did not collapse; they were contracted in all their dimensions, and drawn towards each other by dense fibrous bands seated beneath the opaque and thickened endocardium; the free margins were rounded; the greatest thickening of each flap was around the corpus arautii, and it diminished thence towards either cornu; the flap away from the corpus cut hard under the knife, and was from 1½ to 2 lines in thickness. The thickening was evidently dependent on deposition between the folds of the endocardium. There was a point or two of atheroma in the aorta, but the vessel did not appear otherwise changed. On the right side, the appearances were different; the auricular endocardium was smooth and of normal colour and consistence. The tricuspid opening was small; it admitted only the points of two fingers, and measured, when stretched, only three inches; the flaps of the valves were beaded, somewhat thickened; the chordæ tendineæ were thickened, and considerably retracted, so that the flaps did certainly not rise readily into place. The pulmonary valves were healthy. The vena cava superior was large; the valves at the commencement of the innominate veins were healthy and competent.

Therefore, correcting our diagnosis by this inspection, the condition of this woman's heart was, perfect old adhesion of the pericardium; hypertrophy and dilatation of all the cavities, most marked in the auricles; thickening of the auricular, and, in a less degree, of the ventricular endocardium on the left side, and deposition of contractile exudation matter below it; obstructive, perhaps regurgitant mitral disease; obstructive and regurgitant aortic, the last probably slight; obstructive and regurgitant disease of the tricuspid.

Let me briefly consider the symptoms in connexion with these lesions. The dullness, on percussion, was attributable to enlargement; the irregular action, &c., were, of course, attributable to the dilatation, hypertrophy, and probably also, in part, to pericardiac adhesion; the tricuspid regurgitation gave its systolic bruit at the right apex; but the systolic bruit at the left apex was not, apparently, attributable to mitral regurgitation. Can a systolic bruit arise from mere thickening, or roughness, of the mitral valve, while it still remains competent? You may remember we observed, in a case of phthisis, this really did seem to occur; we had a systolic bruit at the apex with a competent but thickened mitral valve. Two cases of the same kind are recorded by a very excellent writer, to whom I shall have to refer in my next Lecture, viz., Dr. Blakiston. Therefore the possibility of such a thing being almost certain, our present case not improbably belonged to the same class. I am uncertain whether the obstructive mitral and tricuspid disease indicated themselves; we noticed, as I have already said, that occasionally the second sound was what we called reduplicated at the apex; now, after the *post-mortem* examination, it struck me that the supposed reduplication might actually have been a diastolic murmur at the apex, for you are aware that, in obstructive mitral, a murmur often exists which follows the second sound, or sometimes obscures it.(a) The aortic obstruction and regurgitation were marked by no sign, or rather, we noticed none. The state of the pulse might have arisen from mitral disease, from aortic obstruction, or from a weak and dilated heart.

So much for the heart in this case. Now, what was the state of the lungs on admission?

The extreme dyspnœa passing into orthopnœa, and the violent paroxysmal cough, coupled with the known condition of the heart, made us, of course, suspect congestion of the lungs, and, perhaps, something more. All over the chest, anteriorly and posteriorly, except at the extreme bases, there were dry and moist bronchitic rhonchi; cooing, whistling, submucous, and subcrepitant. At both bases there was slight dulness on percussion, disappearing when the patient lay on her face; diminution of vocal fremitus, and a distant and feeble respiration mixed with cooing rhonchi. These signs indicated fluid in the pleuræ, and that this was simple hydrothorax, and not the product of pleuritis, was evident from all the circumstances of the case. The fluid changed its position very readily, so much so that it might have been concluded that the pleuræ were almost free from adhesions. When the patient was found in a position she often assumed, viz., on her hands and knees in bed, with pillows underneath the body to support its weight, the percussion note at the extreme bases became quite clear. The expectoration, which was moderate in amount, was frothy, and, as usual in these cases, sometimes more or less opaque, sometimes greenish, and generally copiously streaked with blood.

Was there any other pulmonary disease besides this congestion, secondary to the heart disease, and this hydrothorax? We could make out nothing. But in this case, as in all others in which there are great bronchitic râles, and particularly if there be pleuritic effusion or hydrothorax, I am in the habit of hesitating for a long time before I decide, from the mere negation of symptoms, that there is no other pulmonary disease. We left, then, the state of the lungs, as respected other diseases, uncertain. No material change took place in the pulmonary symptoms till death, except some increase in the hydrothorax. After death, the lungs were in the following state:—There were several pints of clear serum in each pleural cavity. The left lung was adherent at the apex, by old adhesions, and posteriorly by recent soft gelatinous-looking threads; the pleural surface was elsewhere smooth; the mucous membrane of the bronchial tubes was much injected; the tubes contained a good deal of frothy mucus. This was more conspicuous in the lower than upper lobes; the pulmonary substance was dark red and firm; in the lower lobe unusually so, sinking in water; cutting rather dense, but smooth; not in the least granular; not softened, and evidently only much compressed. The right lung was adherent at the apex only, and presented exactly the same characters as the other lung, only in the lower lobe there seemed to be certainly a little diffused hæmorrhage into the substance of the lung. There was not the least trace of tubercle in either lung; but there was some calcareous transformation of the bronchial glands.

Such was the state of the lungs, which was evidently only secondary to the heart affection, and presented, indeed, a good type of the condition which follows moderate mechanical impediment to the passage of blood through the left cavities, when, at the same time, compressing forces, such as hydrothorax, oppose the entrance of air.

What, now, was the condition of the abdominal organs?

I have already said, that there was a good deal of fluid in the peritonæum; now, in cases of this kind, this condition may depend simply on hepatic congestion, consequent on the obstruction at the heart, or on structural hepatic disease, arising out of such congestion, or on actual independent and original disease of the liver, consequent on its own peculiar causes, and being more or less aggravated by the cardiac affection with which it happens to be combined.

We learned the following particulars into the state of the liver:—The liver dulness could be detected some little way below the mammæ, but was not perfect till the seventh rib; from this to a line drawn on a level with the umbilicus, there was perfect dulness; from the umbilicus a line, impinging at an open angle on the left false ribs, about 3½ inches from the median line, marked the course of the left lobe; the liver was a little tender; the edge could not be felt. It was evident, therefore, that the liver was much enlarged. Its upper margin was also a little lower than usual, a circumstance which was probably not attributable to the small

(a) In one case of decided diastolic murmur at the apex, derived unequivocally from mitral obstruction, which I have seen, the murmur followed the second sound, but was decidedly separated by an interval, although a short one, from the first sound. It did not occupy the whole interval of rest.

quantity of fluid effused in the right pleura, but, as is the case in Phthisis, to the constant and violent cough.

But what was the condition of the hepatic substance? There were two things to guide us; 1st. The liver was more enlarged than it usually is in mere congestion; 2nd. The ascites had succeeded the anasarca more rapidly than it usually does in uncomplicated cardiac affection. For, in heart disease producing dropsy, the extremities first usually swell, then, gradually, ascites come on, and, perhaps, serous collections in the pleura or pericardium. But, when the ascites is coincident with, or precedes, or follows, at an extremely short interval, the anasarca, there is always ground for suspicion that the liver has itself been damaged, and, consequently, has suffered from the advancing heart disease, sooner than would have been the case had it been in a more healthy condition. In the case before us we did not know at what date the ascites had come on, whether even it might not have preceded the anasarca; but we were certain, that if it followed this, as the patient believed, it must have been at a very short interval. But now, as to the nature of this liver disease. There was more enlargement than in granular liver. Malignant disease, lardaceous liver, hepatic suppuration, or cystic growths, were out of the question. The liver was, therefore, probably in the condition of nutmeg liver, or less, probably of uncomplicated cirrhosis, or uncomplicated fatty deposition. Let me remark, in explanation of these terms, that, although the chronic diseases of the liver are still obscure, though, as Rokitansky observes, the "granular liver" is a very enigmatical affection; yet, we are prepared to say, that, under the terms cirrhosis, nutmeg, and hob-nail liver, &c., very different things have been described. Tracing the morbid changes back to their elementary forms, we may, I believe, safely indicate, at least, three special starting points. In one case, there is deposition of contractile exudation matter in the liver; this is true fibrinous granular liver. In another, the elementary change commences in a kind of stasis and dilatation of the minute lobular biliary ramifications, and is followed by changes in the cells. This is true cirrhosis, producing granulation, and is apt to combine itself with fibrinous granular liver. In a third form there is fatty deposition, which, with congestion, or more exquisitely still, by combining itself with true cirrhosis, may produce nutmeg liver. To the complex condition produced by such combination, fibrinous granulation may be added. These three elementary conditions are independent of each other, or may be primary or secondary to each other, and combined with each other, and with congestion, in all conceivable ways. To return from this digression: After death this was the condition of the liver. It was non-adherent; its peritoneal surface was smooth. It was much enlarged, weighing 69 ounces; the antero-posterior diameter measured 8 inches; the transverse, 10; the depth at the thickest part, 2½. The left lobe was rounded and enlarged, but not much prolonged. The surface, as seen through the serous coat, was mottled with white spots; the serous coat, when detached, brought away some granules of hepatic tissue with it. The surface then presented, scattered over the whole liver, several round bodies, the largest of which were the size of small peas; they projected from the surface, were of an uniform yellowish colour, cut soft under the knife, and looked to the naked eye like fat. These bodies appeared, in many cases, to be inserted among, and to displace the hepatic tissue. At the posterior part of the right lobe, the colour became nearly uniformly yellowish, and the lobules appeared to be entirely occupied by a similar deposit to that of the rounded masses before referred to. The outline of such lobules was distinctly marked out, by a tolerably well-defined, apparently portal, injection. The rest of the liver presented a greater or less approach to the same appearance; a yellowish and fatty-looking substance being deposited in the lobules, and perhaps around them. On section the same change was found to have gone on in the interior of the organ, but more in some parts than others. There was, also, in the interior, extreme hepatic congestion of the first and second degree, forming long and broad patches, and large central islands, in some cases merging apparently into true punctiform and maculiform hæmorrhages. In some parts, nothing could be seen but the hæmorrhagic spots, and the soft, yellowish substance before referred to. Although the soft substance looked fatty, it gave no greasy appearance to the knife. The coats of the gall bladder were a little thickened; the reticular membrane injected; there was about one ounce of thickish, stringy bile in it.

On microscopic examination, the scrapings of a piece of liver, moderately diseased, gave, 1st, liver cells crowded with oil globules, the cells, if anything, larger than usual; 2nd, large globules of oil scattered about the field. The scrapings of a piece of liver, greatly diseased, gave liver cells quite *crammed* with oil globules; in some places, the cell walls were so thin as to be hardly seen, and the nuclei appeared to have gone, or at any rate were quite concealed.

Therefore, in this case, there was evidently fat deposition, with both portal and hepatic congestion, in part dependent on such deposition, in part on the condition of the heart. Probably the fatty disease was, in this case, attributable to chronic hepatic congestion, and slow, fatty transformation; and I think this variety of nutmeg liver is, perhaps, the more frequent form of liver change, consequent on obstructive heart disease. But we seldom find it in so pure a state as this; usually it is combined with more or less original disease of the liver, and deposition of other matters in its texture.

So much for the liver. The spleen gave us no signs during life. After death, we found it small, (4½ ounces,) firm, and apparently unchanged.

What was the condition of the kidneys? On first admission, the urine was scanty, seldom reaching to more than fourteen to twenty ounces, and deposited red amorphous lithates in great abundance. It subsequently underwent, for two or three days, a remarkable augmentation in quantity, to which I shall have presently to refer, and afterwards, again became moderately scanty, *i. e.*, from twenty to thirty ounces, acid, with large sediments of red amorphous lithates. It never contained a trace of albumen,—a circumstance to which I particularly request your attention. I, therefore, concluded that the kidneys were healthy, but this was a mistake. After death, they were found to be fatty in a high degree. The right kidney weighed seven ounces; the capsule separated readily from a smooth pale surface, on which was very little polygonal or stellate venous injection. On section, the cortical substance was broad and pale, the malpighian bodies injected; the pyramids appeared normal. The left kidney weighed six ounces; the capsule separated very easily, as in the former case. At one point was a depression with radii. The depression seemed to be formed by old exudation matter, and was connected with a vessel of some sort, which ran up from between two of the pyramids to unite itself, apparently, with the effused substance. Otherwise, this kidney presented the same appearances as the other one; the cortical substance being pale, broad, with the malpighian bodies injected. On microscopic examination, we found that this pallor, and broadening of the cortical substance, were due to extensive fat infiltration; the epithelial cells were crowded with minute oil globules, and fat was also profusely distributed in the field of the microscope, so much so that I thought it could not have been derived entirely from rupture of the cells, but must have existed around them, in, or, possibly, between the tubes.

Now, let me request your attention to this fact: here we had fatty kidneys,—indeed, marked specimens of the kind,—without a trace of albumen in the urine during the five weeks this patient remained in Hospital. And the albumen was not temporarily absent, as it may be sometimes in Bright's disease, the urine evidently presented characters differing from those it exhibits in advanced Bright's disease. We may feel certain, then, even from this single case, that a considerable degree of fat-infiltration is not necessarily attended with the presence of albumen in the urine. It would be unwise to deduce any further consequences from such a conclusion; but we may put the questions to ourselves, whether this non-appearance of albumen was dependent on any unusual condition of the circulation in this case, (although one would suppose there must have been renal congestion,) or whether the blood was in any state unfavourable to the passage of albumen by the kidneys, or whether—as I cannot but suspect, from this and some other cases—true fat-infiltration is really unattended by albumen in the urine, which, when coincident with it, is not produced by it, but by some other condition remaining undetected, and which is the real antecedent. But this is not a point for our present discussion.

Let us now take up the general history of this case after its entrance into Hospital. Our first object was to attempt to relieve the cardiac and pulmonary organs as rapidly as possible; and this was to be done, first, by acting upon the kidneys and intestinal mucous membrane by diuretics and purgatives; and secondly, by the administration of such sedatives and expectorants as might be likely to relieve the congested pulmonary circulation. Accordingly, I ordered half-ounce doses of bitartrate of potash, and small doses of camphor, digitalis, and ipecacuanha. In a short time, a certain amount of improvement was perceptible; the hydrothorax somewhat diminished, and the patient could lie down; but the improvement was not great, and after five or six days I ordered diuretics. At first we began with the acetate of potash and juniper, but this seemed to have no effect, and I then cautiously added digitalis. The digitalis, gradually augmented, and administered, at the same time, as pill and infusion, was carried to a considerable point, without any marked effect. After she had taken it in large doses two or three days, however, it seemed to act almost suddenly on the kidneys. One day, nine days after admission, we found the urine, which in the preceding 24 hours had been 10 oz. only, augmented to 90 oz., of a light colour, transparent, and of a specific gravity of 1007. The next day the quantity was 74 oz., and I began to hope that we should have one of those lucky cases in which diuretics act like a charm. But, on the evening of that day, such extreme languor, nausea, and tendency to syncope, came on, that I was compelled to omit the digitalis for some time, and, though I then resumed it in smaller doses, it seemed to have no effect, and I finally left it off altogether. On the day following the evening of syncope and prostration, the quantity of urine began to decrease, and on the next day had returned to its old standard, or nearly so, of from 15 to 32 ounces in 24 hours, acid, of a specific gravity from 1018 to 1025, and loaded with lithates, which assumed occasionally, towards the end of the case, a marked pink tint. We continued the purgatives and expectorants, without any perceptible effect. Generally eight or ten loose stools were procured, but the anasarca never seemed to decrease, although the cough and dyspnœa were certainly relieved. We also acupunctured the legs; the fluid, which ran out in large quantity, was alkaline, and, with heat and nitric acid, threw down a considerable quantity of albumen. And here let me remark the interesting fact, that, while this fluid effused, as a result of obstruction, into the subcutaneous areolar tissue, did contain albumen, (a) the urine was so remarkably free from it; and yet, as I shall have occasion to mention in my next Lecture, from cardiac obstruction merely, albumen will often appear in the urine. A month after admission, the symptoms were more grave; the collections of fluid had increased; erysipelatous inflammation set in round some of the punctures, which had been made incautiously below the knee; this increased, and passed into sloughing; then on the 13th of August she was seized with an attack of violent watery purging, and died on the following day. On examination, the only thing worthy of note, in addition to the circumstances I have mentioned, wa

(a) Which it does not always do. I have made analyses of these fluids, and found them sometimes to contain albumen, sometimes no albumen, only salts, and a little incoagulable organic matter.

firmly adherent granular effusion of lymph upon the mucous membrane of the lower part of the jejunum, and here and there upon the ilium, to some little extent. Peyer's patches, in the ilium, and the whole of the large intestines, were free from this effusion. There was no head affection throughout the illness, and the encephalic organs were healthy.

Such were the facts of this case. Now for the inferences. The point of difficulty is to know how this heart disease originated. The previous history of the case is so imperfect that we cannot determine this. Had we been able to satisfy ourselves that the patient had suffered from rheumatic fever, or even had had rheumatic pains, the interpretation of the case would be easy; and as it is, in spite of the assertions of the patient to the contrary, I cannot help suspecting that she must have suffered from rheumatism. Possibly this may have been one of those cases in which the joint-affection is moderate, the cardiac disease extreme. Admitting this, we should read this case in the following way:—At some indefinite period before admission, perhaps during rheumatism, pericarditis and endocarditis probably occurred together; the former affected the whole pericardial surface, and rapidly led on to universal adhesions; the latter attacked chiefly the endocardium of the left side, and implicated not only this membrane, but the tissue below it. Then gradually, by the contraction of the sub-endocardial deposits, slight co-arctation occurred at the mitral orifice, and slight rigidity of the aortic flaps. While this contraction was going on, the heart was also experiencing the effects which general and firm adhesions of the pericardium induce; its action was becoming irregular, and at times palpitating; then at a certain date the contraction of the mitral orifice had gone on to such an extent that the auricle, in order to overcome the obstacle, began to dilate, and became hypertrophied. This speedily produced reflux through the pulmonary veins, and congestion of the lungs. Then probably followed the attack, for which she was eventually admitted into the Hospital for Consumption. Relieved by the rest and judicious treatment she here experienced, she left the Hospital; but, as I learnt from the friends, never seemed well, and they, in fact, always considered she was breaking up. The contraction of the mitral being followed by contraction of the aortic orifice, the left ventricle was now called upon to overcome this obstacle, and became hypertrophied in consequence; not to any great extent, however, because its own contracted mitral orifice cut off, in part, its supply of blood. Had it not been so, it would have become greatly hypertrophied, and probably have broken down, by the force of the current, those rigid aortic valves. The continued, though slight, congestion of the lungs of course impeded the flow of blood from the right ventricle; this, then, became hypertrophied. The tricuspid orifice also being thickened and contracted by the local endocarditis which had occurred here, produced an obstacle to the flow of blood, and led on to hypertrophy and dilatation of the right auricle and general venous stagnation. Then it also gave way before the force of the ventricle, or the shortening of its chordæ tendineæ destroyed its competence. At length, under these various influences, the effects of dilatation of the cavities, obstruction at the mitral orifice, moderate tricuspid regurgitation, and tricuspid contraction, with auricular hypertrophy, showed themselves in general dropsy and increased pulmonary congestion.

Before this, however, we may well suppose that the liver and kidneys had commenced to undergo their fatty degeneration or deposition, under the influences of the cardiac affection to which they had been submitted, and which seem frequently to produce similar effects, although the exact steps of the process are not known.

After the entrance into Hospital, the course of the affection requires no illustration.

Bologna.—All the Professors of the University of Bologna are suspended from their functions. Thus politics interfere with education.

ORIGINAL CONTRIBUTIONS.

THE CHOLERA AT TORPOINT, DEVON

By A. McCLURE, Esq., R.N.,
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The cholera having broken out at Torpoint, the Board of Guardians of the St. German's Union procured the assistance of two medical gentlemen, to co-operate with Mr. Chubb, the only resident practitioner in the neighbourhood; they were, however, soon obliged to leave. Application was now made to Captain Nicolas, Royal Naval Hospital at Plymouth, who, with the concurrence of Dr. Rae, the Inspector, granted the services of two Naval Medical Officers. Mr. Bowden and I were selected for the duty. Mr. Bowden being almost immediately ordered to rejoin the Hospital, I was deprived of his valuable assistance.

The town of Torpoint, distant about a mile from Devonport, on the opposite side of the river Tamar, is apparently healthy. The population amounts to about 1600. It is chiefly composed of sailors, labourers belonging to the Dockyard, &c.; a number of families generally reside in the same house, and occupy, according to circumstances, one, two, or more rooms, which, for the most part, are devoid of any means of ventilation; the sewerage is very bad; but the greatest evil with which the inhabitants have to contend, is the inefficient supply of water; at times, in the summer months, it is with difficulty that they are enabled to procure enough for culinary purposes, end even this is of a deleterious and unwholesome quality.

I came to Torpoint on the 1st of September. The place was in a very sickly state. Mr. Chubb, whose attention to the poor people suffering from the disease had been most praiseworthy, was quite exhausted from overwork, and unable to attend to his duties. Cholera prevailed to a considerable extent, and diarrhœa was to be met with in almost every second house; the inhabitants, also, seemed greatly depressed and panic-stricken. Here, as in other towns I have visited, the disease was confined to the lower classes, and to the more wretched, filthy, and worst-ventilated districts; in fact, wherever a foul drain or an offensive privy existed, either cholera or diarrhœa was sure to be found close by. Such a state of things rendered it absolutely necessary to adopt prompt and energetic measures in order to better the condition of the people, and to arrest, if possible, the spread of the epidemic.

I have always been impressed with the advantages that would result from a system of house-to-house visitation, properly organised, in localities where cholera prevails, and had determined to give it a fair and impartial trial, should another opportunity ever offer; so, after a short consultation with Mr. Chubb on the subject, we decided upon introducing it without delay.

While carrying out this most salutary measure, I endeavoured, at the same time, to improve the sanitary state of the town, and add to the domestic comforts of the inhabitants; for this purpose, houses of refuge were secured, to which a number of persons were removed from the overcrowded and infected districts; a more nourishing and generous diet was gratuitously supplied to such of the people as required but could not procure it; the dwellings in those localities where the disease had made its appearance were whitewashed, thoroughly cleansed, and plentifully besprinkled with the chloride of zinc; all nuisances, the removal of which was not considered to be injurious, were taken away; but there were a few dung-heaps of such magnitude, that I considered their being disturbed might be prejudicial to the health of those residing in the immediate vicinity, from setting free a quantity of noxious gases. These I had covered over with a thick coat of quick-lime. I originally intended flushing the streets, lanes, and especially the sewers, with water, by means of a fire-engine, but, in consequence of the great scarcity of water, I was obliged to abandon the idea. Such a proceeding would, I am certain, have been attended with great benefit.

I have already mentioned that the sewerage is very bad, and there being no water to carry off the accumulations of filth, a most offensive odour was frequently to be met with. In such cases I had recourse to Sir William Burnett's solution of the chloride of zinc, which at once did away with the smell, and rendered the place quite pure. This invaluable preparation has been extensively used in the town and neighbourhood of Torpoint since my arrival, and its virtues highly appreciated, even by the lower classes; for twelve months I have had daily opportunities of testing its efficacy, and am fully convinced, that, as a deodorant and disinfectant, it stands unrivalled.

It having been represented to Captain Nicolas, that the supply of water was inefficient and unwholesome, he at once, with his usual generosity, proposed to remedy this evil by sending as much as would be required for the use of the town, from the Royal William Victualling Yard, which he has continued to do regularly for upwards of three weeks; this is one of the greatest blessings that could have been conferred on the poor people, and I have no doubt it has materially aided in mitigated the severity of the disease.

When I first commenced my professional visits, I found the diarrhœa to be of a most obstinate character, and a number of cases, in spite of treatment, lapsed into confirmed cholera. This state of things continued for a few days after I came here, and rather discouraged me at the outset. Upon making careful inquiries, however, I discovered that the diarrhœa with which I had then to contend had been going on for two or three days, and in some instances much longer, without any application having been made for medical aid; but, latterly, a most remarkable and salutary change in this respect has been brought about by the house-to-house visitations, through which diarrhœa is now discovered on its first appearance, and brought under medical treatment at an early period, a few doses of some ordinary astringent medicine generally relieving the symptoms. Thus, out of 253 cases of diarrhœa which I have had under my care since I came here, I have only had six in which cholera has supervened, when I have had an opportunity of treating the malady at its first commencement.

On referring to my notes, I find, that on the 2nd instant, when I entered upon my duties, I discovered 10 cases of cholera, and 35 of diarrhœa; in the great majority of instances, the diarrhœa was of considerable standing; from that time up to the present, I have had under my care 29 additional cases of cholera, and 218 of diarrhœa, making, in all, 39 of the former, and 253 of the latter; of the 29 cases of cholera, 16 occurred in persons who had been suffering from severe and long-neglected diarrhœa, and for which they had become patients of mine on the first or second day after my arrival, and before the house-to-house visitation had been properly established; 3 were persons who, although I had been in the habit of visiting at their houses daily, were fool-hardy enough to disregard the premonitory symptoms, and to allow the diarrhœa to run on for upwards of a week ere they applied for relief. These, I may add, are the only individuals I have yet met with who have not been glad to avail themselves of the advantages which the system of house-to-house visitation is calculated to confer. Two of them have already paid the penalty of their negligence with their lives, and of the recovery of the third I have no hope: the remaining six cases are those previously mentioned as having lapsed into cholera from diarrhœa, notwithstanding the adoption of early and energetic treatment; and even of this number, but one person died, which affords additional evidence of favourable results arising from the timely administration of proper remedies.

The following Table exhibits the number of cases of cholera, and the deaths that have taken place weekly, from the 12th of August, the day on which

it made its appearance at Torpoint, until the 16th September, when the last case occurred:—

	Cases of cholera.	Deaths
From 12th Aug. till 19th Aug.	11	6
" 19th " 26th "	15	6
" 26th " 2nd Sept.	32	17
" 2nd Sept. till 9th "	22	5
" 9th " 16th "	7	3
Total	87	37

In addition to those above mentioned, 12 deaths are registered from the Union Workhouse; but the number of persons attacked does not seem to have been reported; and, as they all occurred before my arrival, I cannot give the proportion of the mortality, but believe it was very great.

The foregoing statement cannot fail to show, that the measures adopted for the purpose of arresting the progress of the pestilence with which this town has been visited have been remarkably successful. We find the disease steadily progressing, from the date of its first appearance, until the 2nd instant, when the house-to-house visitation was suggested; and, as soon as this and other sanitary precautions decided on were brought into operation, the health of the inhabitants rapidly improved.

Since the outbreak of the present epidemic in Plymouth in the beginning of July, I have had opportunities of observing upwards of 300 cases of genuine cholera, and I have never yet met with a single instance in which the disease has not been preceded by diarrhœa of greater or less duration. Surely, then, if such be generally the case, and if we can, in the majority of instances, prevent cholera by arresting the progress of the diarrhœa in its early stages, no means ought to be neglected to enable us to seek out the premonitory symptoms, and thus successfully combat such a malignant and fatal disease; and that the house-to-house visitation secures this most desirable object, no one with any experience can deny.

And here I would remark, that it is by no means prudent to abandon the system as soon as the epidemic shows symptoms of abatement; in many places we find a recurrence of the disease after a short cessation; and when the inhabitants were beginning to congratulate themselves that it had taken its departure from among them, it has suddenly reappeared with increased and fearful malignancy, numerous examples of which have come under my own observation in this neighbourhood. To guard against such a calamity, (although there has not been a single fresh case of cholera in the town for nearly a fortnight,) I still continue to keep, up to the present hour, the daily visits to the houses of the inhabitants; and there is good reason to believe that this has been a wise precaution, as I have, on several occasions, noticed an increased tendency to diarrhœa, which would, in all probability, have lapsed into cholera, had it not been promptly attended to.

A circumstance now recurs to my mind, which, although foreign to the object of this report, may, perhaps, be worth bringing under notice. When the cholera was raging, some few weeks ago, among the corps of Royal Marines belonging to the Plymouth division, I was often astonished at the numbers brought into the Naval Hospital in a state of collapse on the first outbreak of the epidemic. The patients were sometimes so much exhausted, on admission, as to be unable to give any account of their illness, or even state when they had been attacked. Upon inquiring, however, it invariably appeared that they had been suffering from diarrhœa for several days before they thought it necessary to acquaint the Surgeon with the state of their health, the great majority of them labouring under a false impression that the diarrhœa was salutary; and to such an extent did this prevail, that some instances have come under my notice of persons whose bowels had acted upwards of twenty times in the space of a couple of hours, ere they sought advice. Since that time, I have often thought that it would be a prudent measure to adopt, (when any tendency to diarrhœa manifests itself,) on board ships of war, or in regimental barracks, to place a sentry in charge of the water-closet, who would be instructed to report to one of the Medical Officers any individual found to visit that place oftener than twice or thrice within a stated period. I have no doubt that were this precaution carried out, it would be the means of preserving the health and saving the lives of many of Her Majesty's servants.

It is acknowledged by all, that cleanliness and ventilation are most powerful adjuvants in successfully contending with any epidemic; in cholera they are found to be pre eminently advantageous. That the house-to house visitation ensures these desirable objects being brought into practice by the lower orders, is sufficiently evident from the frequent opportunities afforded medical men, and others so employed, of coming into contact with the poor, and observing the state of their dwellings; every visitor should impress upon those under his care the absolute necessity of living in clean rooms, and of breathing a pure atmosphere, and personally ascertain, in his daily visits, that his orders and suggestions in this respect are carried out, that the windows are opened, and that all filth and refuse are removed from the houses, and by so doing he will soon discover a most wonderful and gratifying change in the health of the people who reside in his district. I am particular in mentioning these injunctions, in consequence of the difficulty I have myself met with in conquering the slovenly habits of the people. I have frequently observed, among the lower classes of society, that there is no more desire on their part to live in well-ventilated apartments, than there is for a decent regard to cleanliness; but a little perseverance and determination will speedily overcome these prejudices.

Many persons are opposed to the system of house-to-house visitation, on the ground that it keeps up a panic without answering the purpose intended. This my own experience proves to be without the least foundation. During my frequent intercourse with the poor since I came here, I have invariably found them, with the three exceptions already alluded to, quite willing to come forward and relate their ailments; and when the object of my repeated visits to their houses was explained to them, most grateful did they seem for the trouble and interest taken in their welfare.

The expense incurred by carrying out the system is also adduced as an argument against its adoption. I am certain that those who thus reason have never taken into consideration the future cost that will of necessity be incurred by the parish, in maintaining those who may have been left destitute. During the three weeks' ending the 2nd instant, before the house to-house visitation was established here, there were 29 deaths; from that date up to the present time, there have only been 8 deaths. In both instances, the Poor-law Guardians must provide for the widows and orphans of those who died without leaving a provision for their families. Let those who are conversant with workhouse economy and parochial expenses, declare in which case the greater amount of expense will be eventually entailed upon the ratepayers. Why, the money paid for funerals alone, during the former period, would, in my opinion, nearly suffice to meet any extra expense incurred; besides, if, on the principle that prevention is better than cure, the system advocated can in any way tend to subvert the predisposition to, and, consequently, in many cases, the occurrence of that dreadful malady, is it not repugnant to the feelings of every right-minded individual, that the small additional cost objected to should be laid in the same balance with, and outweigh the preservation of human life?

In carrying out the sanitary measure suggested by me in this town, most valuable assistance has been rendered by the Rev. Richard Dunning and Captain Wriford, of the Royal Navy. The resident Medical Practitioner being often absent in attending to a large country practice, I found it quite impossible of myself to look after the health of all the inhabitants. The above gentlemen kindly volunteered to visit those localities to which it was out of my power to go, from want of time, and, whenever they met with any case of a suspicious nature, they had the person at once sent off to the Dispensary, or, if unable to leave the house, I was informed of the circumstance, that I might be in attendance as soon as possible.

Having given a good deal of my time and attention to the study of the present epidemic, perhaps a few words as to the treatment I have followed, may not be uninteresting to you. In recent diarrhœa I find that a dose or two of chalk mixture, or some of the compound chalk powder, (the latter being better adapted for children,) for the most part relieve the symptoms; when irritability of the stomach and sickness supervene, I generally administer a mustard and salt emetic, and, if the patient complain of pain or cramps in the abdomen, I cause either a sinapism or turpentine epithem to be applied over the stomach and bowels. Sometimes I have found, in this stage of the disease, stimulants—when cautiously administered—to be attended with benefit, more especially in young persons; I usually prescribe a tablespoonful of brandy, with a little water, or some of the compound spirit of ammonia, tincture of cardamoms, and camphor mixture, combined, every half hour; when rice-water purging comes on, I invariably have immediate recourse to calomel, which I give in five or ten grain doses, every hour; but, in the exhibition of this medicine, I do not confine myself to any fixed rule, nor do I servilely follow this, that, or the other plan, so frequently insisted on, as absolutely requisite to ensure success, being guided entirely by the character and urgency of the symptoms, and the constitution of the patient. As my chief object now is to affect the system, I usually cause a drachm or two of the strong mercurial ointment to be rubbed into the axillæ. If the purging be very violent and frequent, I give directions for the administration of some astringent enema, which has sometimes quieted the bowels; if at this stage of the disease the patient can be brought under the influence of mercury, there is every reasonable hope for his recovery, should he even pass into a state of collapse; but, when once collapse has set in, without the medicine having taken effect upon the system, then, in my opinion, the less we do the better, as I have never yet been enabled to ascribe the recovery of a single individual from this state to the administration of any remedies commenced after it has come on; and I am fully convinced that nature can, and will do more at this period, (if left to herself and not meddled with,) than all the highly praised and numerous specifics that are being daily brought under public notice.

Although I have given a very short sketch of the treatment which I have found, from experience, to be most successful, I am firmly convinced, that, with our present imperfect knowledge of the pathology of this disease, it is not on medicine alone that dependence is to be placed, if we would diminish the amount of mortality caused by the epidemic. Perhaps, however, it is right that every feasible remedy should get a fair trial; but, hitherto, I have seen almost every one employed that has been suggested, and, although I have read of the wonderful cures effected by them even in the last stage of the disease, I have invariably found them all to be signal failures, and I am convinced, that if the premonitory symptoms be not attended to, and the disease grappled with at the onset, very little is to be hoped for from these sources.

And now that the fearful pestilence with which our country is at present visited, has been the means of directing the attention of the authorities, and the public generally, to the privations, as regards domestic comforts, &c., to which the lower orders of the people have been subjected, let us hope that something will be done, without loss of time, to ameliorate their condition; as to their dwellings, the plentiful supply of good and wholesome water, and the drainage,—let these and other judicious sanitary measures be at once brought into operation, and it will be found that cholera, typhus, and all other such preventible diseases, will be of much less frequent occurrence; and that, when they do come among us, they will be deprived of much of their present virulence.

I regret that I am unable, from want of time, to enter more minutely into these matters just now; perhaps, at some future period I may take an oppor-

tunity of doing so, as many circumstances have lately come under my observation, in connexion with the epidemic now raging around us, that I am anxious to bring before the Profession, but which, for the present, must be omitted.

Torpoint, Devon, Nov. 1849.

[The exertions made by the excellent Author of this communication, and the results which followed them, are good examples, both of the steps which Medical men should adopt in similar emergencies, and the admirable effects which prompt and efficient Medical assistance produce. It does not appear too much to say, that Mr. McClure positively arrested cholera in Torpoint, and that the salvation of the lives of many persons are to be attributed entirely to him. This is as it should be. Even this terrible pestilence of cholera is not beyond the barriers which human intellect can impose upon it, if this intellect is wisely and judiciously exerted.—ED. *Medical Times.*]

HOSPITAL REPORTS.

ST. BARTHOLOMEW'S HOSPITAL.

INJURY TO THE KNEE-JOINT FROM THE EXPLOSION OF GUNPOWDER.

ACUTE INFLAMMATION, CAUSING TOTAL DISORGANISATION OF THE JOINT; AMPUTATION ON THE THIRTY-THIRD DAY AFTER THE INJURY.

William Hogley, a sallow-looking youth, about sixteen years old, was brought into Kenton ward on the 28th October, 1849, with a small lacerated wound of the skin, about two inches above the patella, occasioned by the explosion of a little cannon charged only with gunpowder and wadding. In the opinion of those who first examined it, the wound was considered superficial, and the knee-joint uninjured, so that this subsequently very interesting case, did not, in the first instance, attract particular attention. After a few days, the wound began to suppurate freely, and it became necessary to enlarge it, in order to give a more ready outlet to matter which was burrowing along the thigh. In this trifling operation, hæmorrhage, from a divided artery, took place to so great an extent, that the pulse and the countenance of the patient were manifestly affected by it. We would draw attention to this circumstance, the more because this considerable loss of blood did not ward off the very acute inflammation of the joint which subsequently took place.

The case proceeded without creating any anxiety till the twelfth day, when there suddenly arose unequivocal symptoms of active inflammation of the knee-joint, accompanied with severe pain, fever, and a quick pulse. In the hope of subduing this inflammation, the limb was placed upon a splint, leeches were applied to the joint, and two grains of calomel, with two grains of antimony and one-fourth of a grain of opium, were given every eight hours. This treatment, however, was of no avail. Not only the joint, but the parts above and below it, became considerably swollen; and the least pressure, or the slightest motion of it, occasioned severe pain. The wound looked flabby, glassy, and without any secretion; but a thin, purulent fluid escaped from it when pressure was made upon the ham, and a probe could be introduced deeply in the direction of the knee. These circumstances, taken in connexion with the constantly accelerated pulse, and the haggard expression of the countenance, made it nearly certain that the joint communicated with the wound, and that its interior was in a state of suppuration.

The question was soon settled. On the 28th day, distinct fluctuation being perceptible on the inner side of the knee, an opening was made, which gave exit to a considerable quantity of pus, and through which a probe was passed straight into the joint. The evacuation of this matter was certainly productive of temporary relief, and the pulse decreased in frequency for a day or two afterwards. But the train of symptoms speedily resumed their former character. In spite of every effort to support the constitution by a suitable treatment, and in spite of the fact, that the patient was able to take his food, and, with the aid of opium, enjoyed, to a certain extent, comfortable rest at night, he nevertheless grew, from day to day, gradually worse. Therefore, after a consultation with his colleagues, in which it was the opinion of the majority, that the removal of the limb would afford the best chance of life, Mr. Stanley, who had charge of the case, performed the amputation by the circular operation, on the 33rd day after the receipt of the injury.

The examination of the joint fully justified the propriety of amputation. There was pus in the interior, the synovial membrane was thickened, soft, and pulpy, the cartilages were extensively ulcerated, the bones bare in several situations, the fibro-cartilages disorganized, and the ligaments softened. The original wound communicated freely with the joint in two places; one immediately above the patella, the other at the back of the joint, close to the tendon of the popliteus muscle, this being a situation in which the synovial membrane is the least protected by fibrous structures, and therefore, in almost all instances, more prone to give way.

Up to the time of our present report, that is, on the tenth day after the operation, we are happy to state, that the patient is progressing in all respects most favourably.

We would suggest one or two considerations concerning the class of cases of which the foregoing is a good example.

First, then, supposing an apparently superficial wound to have occurred in the neighbourhood of a joint, it would appear to be by no means so easy to determine, in the first instance, whether the joint be opened or not. One ought, therefore, to treat such a case with all possible care, just as though the joint itself were implicated in the mischief, and this the more especially, if the joint in danger happen to be a large one. Secondly, assuming the joint to be opened, untoward symptoms may not come on till the expiration of many days. In the case before us, inflammation did not arise till the 12th day. Many other instances might be adduced in illustration, but it may suffice to mention rather a remarkable one, which happened last summer in the Hospital. A cart-wheel passed over a boy's leg, and made a lacerated wound into the knee-joint on the inner side of the patella. Three weeks had elapsed, and the wound had nearly healed, when most acute inflammation suddenly attacked the joint. Such was the severity of the local and general symptoms, that there were very soon good grounds for believing that suppuration of the joint had taken place, and accordingly a free opening was made into it. The opinion that the joint had suppurated proved to be correct; but the opening and the evacuation of the matter did not in the least degree relieve the constitutional symptoms, which would unquestionably have rapidly proved fatal to the patient, had not amputation of the limb been performed as a last resource. In this case, also, the joint was entirely disorganised.

In penetrating wounds of the knee-joint, which have produced suppuration in its interior, it is considered by some hospital surgeons to be a proper measure to make a free opening into the joint, and to let out the pus, and this whether or not the joint be distended by it, but we have never seen a leg saved by such a proceeding. May we not safely say, that it is the opinion of most of the leading surgeons in this country and on the Continent, that no reasonable benefit can, even at best, be anticipated from such opening, unless the joint be suffering from excessive distension, and that, after all, these cases require amputation at last. The following instance is adduced, in order to exemplify the opinion held on this subject by the late distinguished surgeon Professor Rüst, of Berlin.

"A young man struck himself on the inner side of the patella with the point of a hatchet, which penetrated into the knee-joint. For nine days afterwards he followed his ordinary work without any pain or inconvenience; but, on the twelfth day, violent inflammation arose in the joint, and ran its course with such rapidity, that suppuration was considered to have taken place in it when the patient was brought under the notice of Professor Rüst. Convinced by long experience of the fatal results of similar cases, the Professor recommended, to the no small surprise of the young surgeons present, that the limb should be immediately amputated; but the patient refused to submit to the operation, and died in about thirty days after the receipt of the injury."

REMOVAL OF AN EXOSTOSIS FROM THE LAST PHALANX OF THE GREAT TOE.

This operation has lately been performed by Mr. Lawrence. The patient, a young man from the country, had an exostosis growing from the upper surface of the last phalanx of the great toe, and projecting beneath the nail. He ascribed the origin of the growth to the toe being trodden upon by the foot of a horse. The tumour had existed for about twelve months, and during the last six had caused so much pain as to prevent the wearing of a boot. Heretofore, it was the practice to remove the whole of the ungual phalanx in cases of this disease; but of late years the mode of operating adopted at St. Bartholomew's Hospital is as follows:—A flap is made from the soft parts beneath the under surface of the phalanx; an incision is then made across the matrix of the nail down to the bone, and the end of the phalanx, with the tumour attached, is removed with the cutting forceps. The flap of skin is afterwards raised over the divided end of the phalanx, and confined by one or two sutures. By this proceeding the long flexor tendon of the toe is not injured; neither is the root of the nail removed; so that, after a new nail has formed, the toe looks very slightly altered, except that it is a little shortened.

UNUSUAL SIZE AND COURSE OF THE SUPERFICIAL PERINÆAL ARTERY.

In a male subject lately dissected, the superficial perinæal artery on the left side was nearly as large as the trunk of the internal pudic, and proceeded across the perinæum, lower down than usual towards the mesial line, so that it lay directly in the way of the incision in lithotomy. But besides this, the artery of the bulb in the same subject, also crossed the perinæum nearer to the anus than usual; consequently, had lithotomy been performed in this instance, there must have been divided two large arteries, either of which might have occasioned fatal hæmorrhage.

CUT THROAT.—INSTANTANEOUS DEATH FROM SUFFOCATION, PRODUCED BY BLOOD IN THE TRACHEA.

A patient in Dr. Hue's ward, suffering from dyspepsia, committed suicide by cutting his throat. Death was almost instantaneous. On making the *post-mortem* examination it was discovered that the trachea and the larger bronchi were blocked up by blood, and that blood had been sucked into the lungs, the right especially. The incision had divided the alæ of the thyroid cartilage, and both the superior thyroid vessels. The carotid arteries and internal jugular veins were not injured.

UNIVERSITY COLLEGE HOSPITAL.

Several operations were performed on Thursday, 29th November, of which the following are the most important:—

LITHOTOMY.

Henry Tappin, aged four years, a fine, healthy-looking boy, admitted under Mr. Quain, on account of stone in the bladder.

A small calculus, which had become impacted in the urethra, was dexterously removed by Mr. Hurman about twelve months ago. But symptoms of stone in the bladder are, and have for some time been evident. Urine spirts from the little patient as he walks about. He suffers much pain at times; has frequent desire to make water; rests upon his hands and knees to do so, and wets his bed at night; prepuce is elongated; he is constantly pulling at it.

When he was admitted into the Hospital a small stone was pretty clearly felt with a sound; but, upon repeated trials afterwards, there was only a sensation as if some calcareous matter were rubbed

with the instrument. At length the "click" of the sound against the stone being distinctly heard, the day for the operation was fixed.

Nov. 29.—The child being brought into the operating theatre, while under the influence of chloroform administered in the ward, and the stone being again clearly felt with a sound, Mr. Quain at once proceeded to operate, and extracted a small nodulated calculus.

Dec. 1.—The child was heard singing on the morning after operation; and he is now in all respects doing well. The tube was removed in thirty hours. The urine is quite clear, and it flows freely. The position in which the staff was held in this case is worthy of notice. In the ordinary mode of using the side-grooved director, the instrument is retained in one unvarying position—the handle directed vertically; but, in the present instance, Mr. Quain had the handle at first held towards the pubes, away, therefore, from the operator more than usual; and, when the scalpel entered the groove of the staff, the handle of this was then inclined forwards to the usual position, *i.e.*, nearer to the operator.

The effect of this deviation from the usual course, which was fully explained in the Clinical Lecture to-day, (Dec. 1,) may, in few words, be stated as follows:—The first position of the director is intended to bring the grooved part of that instrument nearer to the surface of the perinæum, and so to facilitate "the first difficulty" of the operation, viz., the introduction of the scalpel into the groove of the staff; while the change in the position of the director, when the scalpel has reached the groove, raises this and the cutting instrument away from the rectum, and from the lower part of the bladder during the section of the prostate gland. The object seemed to be fully attained in the operation.

STRICTURE OF URETHRA—FISTULA IN PERINÆO—OPERATION.

James Graby, aged 54, admitted September 17, under Mr. Quain. Stricture of urethra, traceable to repeated attacks of gonorrhœa during the last eight years. Retention of urine twice during that period. In 1818 an abscess formed in the perinæum, after an attempt to pass an instrument along the urethra.

This patient is a spare, thin man, with an anxious, care-worn countenance. He is anxious to have any means used that may be thought necessary to relieve him of his sufferings.

At junction of scrotum and perinæum, and in the median line, is a fistulous opening, with the tissues much thickened and indurated around. The stream of urine is exceedingly small, and there is frequent desire to pass it. At each act a few drops escape through the fistula. The introduction of bougies was almost invariably followed by rigors; and the stricture was not improved by their use, for, though on more than one occasion dilated to some extent, it again quickly returned to the original very narrow state. Under these circumstances, an operation was determined on.

November 29.—Chloroform having been administered, a full sized wax bougie was passed down to the stricture, and marked with reference to the meatus. The smallest lithotomy-staff being found too large to pass through the narrowed part of the urethra, a very slender straight director, with the extremity slightly bent, was introduced along the whole length of the canal without any difficulty. [This instrument was constructed with reference to the present case.] The patient being then put in the position for lithotomy, incisions were made into the urethra through the fistula and the surrounding indurated substance. The depth was very considerable, the tissue cutting like cartilage.

After the urethra had been laid open for about half an inch, the director was withdrawn, and a well-sized catheter passed down; but this instrument was arrested beyond the incision in the canal, the whole of the stricture not having been cut through. The director being now re-introduced, the incision previously made in the urethra was continued backwards. The catheter then slipped in easily.

Mr. Quain stated, that if the fistula and surrounding tumour had been at the side of the perinæum, the operation would have been a more easy one, for in that case the incisions would have been made in the middle line, without regard to the tumour. He added, that he had to perform the operation without a measure of the length of the stricture. The position of the anterior end of this was determined with a bougie, and that of its posterior might have been sufficiently ascertained beforehand, if the fistula admitted a probe to pass into the urethra. But as it was impossible to make a small director penetrate any distance along the fistula, he had to divide the stricture by two separate incisions.

Dec. 1.—Catheter removed, having been retained since the operation without any inconvenience.

AMPUTATION OF THE THIGH FOR LONG-STANDING DISEASE.

William Russell, aged 56, admitted Nov. 17, for extensive chronic ulcer of right leg, with disease of tibia and fibula, originating in an injury received in 1834. The wound had remained unhealed since that time. He came into the hospital for the express purpose of having the limb off.

It was deemed advisable to amputate immediately above the knee joint, for there was reason to doubt the soundness of the upper end of the tibia. Bilateral flaps were formed.

In this instance, as in others, Mr. Quain cut the flaps short, dividing when they were held back, the deeper muscles by a circular incision, as in the common circular amputation, thereby adding to the extent of the soft parts required to cover the bone, and dividing the larger vessels transversely. The flaps extended to the side of the knee-joint, and the bone was sawed as near its lower end as was compatible with the formation of flaps without reaching the flesh of the leg.

Examination of Leg.—On removing the muscular substance from tibia and fibula, the anterior surface of the former presents a large oval roughened elevation. Its prominence above the general surface of the bone is considerable. It is tuberculated, and distinctly denuded of periosteum in some places, especially along its inner and most prominent margin. On removal of the periosteum, the bone is seen to be considerably injected, especially the more roughened parts; throughout this membrane is thickened. The fibula is enlarged, and at one part has entirely lost all appearance of surfaces and margins. The soft tissues between the tibia and fibula are extremely dense; and the bones are united one to the other below at several points by osseous matter. On section, the compact tissue is seen to have so encroached upon the medullary canal as nearly to obliterate it.

KING'S COLLEGE HOSPITAL.

On Saturday last, Mr. Fergusson had several operations of interest. Amongst the cases was that of a young child, who had two nævi on the scalp, which were of that description involving the skin, and chiefly composed of the ramification of the small arteries. Each of these tumours was treated in a different manner. The first, Mr. Fergusson strangulated, by means of a knot of strong ligature passed completely around the base of the nævus; the other tumour was operated on by the needles, which were passed through the base of it, at right angles to one another, and the ligature was then twisted firmly around them, and the morbid mass was thus effectually circumscribed.

After this operation, a young girl was brought into the theatre, who was suffering from necrosis of the ulna. The disease had existed for some time, and there were indications of a large portion of dead bone, lying either loose or in process of separation. The arm was much inflamed, and greatly swollen; and there was a large fistulous opening in the centre, through which a probe could detect diseased bone. Mr. Fergusson, therefore, deeming the present a proper time for interference, made a free incision through the diseased parts, and, on carefully examining the bone, found a considerable portion dead; and by means of a strong pair of forceps, he removed a portion of the necrosed ulna, at least four inches in length, and apparently involving the entire thickness of the bone.

On Saturday last we recorded a case, in which Mr. Fergusson performed the operation of cutting a stricture through the perinæum. An operation of a somewhat similar character was performed upon a man this day. The patient had suffered, in the most literal sense of the word, from a bad stricture of the urethra for about twelve years, and he had been under the care of Mr. Fergusson at a previous period. The structure was, at that time, exceedingly irritable and undilatable, and, although a moderate sized catheter could be passed through it, so little relief was obtained, and there was so great a tendency in the urethra to contract again, that it was determined to cut him; and he was actually brought into the theatre for the purpose of being operated on, at the same time that an operation of a similar character was being performed on another patient; but, Sir Philip Crampton being present, recommended Mr. Fergusson to abstain from the proceeding; and, instead, to put the patient under the influence of chloroform, introduce as large a sized instrument as possible, and keep it in the bladder. In deference to so high an authority, Mr. Fergusson pursued this course of treatment; but, after remaining in the Hospital some time, the patient left much in the same state. In the course of six months he was again admitted; and Mr. Fergusson proposed the division of the stricture, to which proceeding the patient willingly consented to submit. The operation was done in the following manner:—A No. 6 staff, with a groove in its centre, was passed through the stricture; the knife was then carried through the centre of the perinæum down upon the groove, along which it was slid against the stricture, until the whole was divided; an elastic catheter was then introduced, and then retained.

It will be noticed, that this operation is similar to one recommended by Professor Syme—only there is this difference: the Edinburgh Professor divides the stricture from behind forwards, whilst Mr. Fergusson cuts from the urethra towards the bladder. The great principle is the same—namely, *the introduction of a director through the stricture*, upon which the division is made. Of course, this operation was comparatively simple; far different from that performed last Saturday, where no instrument could be passed, and where the structures of the perinæum were extensively diseased; and Mr. Fergusson, in some sound and practical remarks, forcibly contrasted the two proceedings, and pointed out the cases in which each operation was applicable.

PROGRESS OF MEDICAL SCIENCE.

FRANCE.

(From our Paris Correspondent.)

PROHIBITION OF NEWSPAPERS IN THE PARIS HOSPITALS.

The political condition of this distracted country necessarily influences nearly all its Institutions; but it will hardly be believed that political rancour pursues the sick within the precincts of an hospital just as, in the dark ages, it followed them even beyond the tomb. Yet such is the case. The convalescent patient in this, as probably in every other civilized country, has hitherto been permitted to read the political journals. The privilege of sale was generally confined to the hospital porter, and the patients, at small expense, contrived to pass many a weary hour with pleasure, at least, though, perhaps, unprofitably. This trifling consolation has been suddenly removed from them by order of the authorities. Henceforward, that is to say, until better times come, the doors of every hospital in Paris are to remain closed against every species of political publication. Neither the servility of the *Constitutionnel*, nor the hypocrisy of the *Patrie*, has availed them against the pitiless proscription. All are confounded under the same decree. It is difficult to account for this harsh and cruel mea-

sure. The democratic journals, being the cheapest; are those generally read by the hospital patients, but the character of the publication can hardly explain the severity of the order. It would be more simple and efficacious to forbid at once the people from learning to read. By-the-bye, the same measure has been recently applied to the army also. The private soldiers are strictly prohibited from reading any newspaper whatever, either in their barracks, in places of public resort, or in private houses. If the "schoolmaster be abroad," he is not assuredly in the guise of a politician. But these things excite little attention here, for few have faith in the Imperial pastime of placing chains on the human mind. Besides, in our present case, every one looks more or less to himself, and no one to "*la chose publique*," hence, the poor patients must "devour their solitude," as best they can.

HOMŒOPATHY IN PARIS.

Great noise is being made about the introduction of homœopathy into one of our public hospitals. This procedure has given great offence, and, it is said, the affair will become matter of Government investigation. It has already been submitted to a Committee of Hospital Physicians. Practically speaking, a great majority of French medical men are little better than Homœopathists; that is to say, they leave the cure of most diseases almost entirely to nature. They avoid, however, the quackery of pretending to administer medicines, when, in reality, they give nothing active. As Dr. Johnson said to Mrs. Bozzi, "they do not flatter themselves that they are making tea, when they are only making water."

From the followers of Hannemahn we learn that which it is impossible to learn from the practice of other physicians—the natural course of every disease, and the power of nature in the cure of disorders.

But such knowledge is incompatible with the English system of general practice. Where the medical man is paid for his drugs, not for his science, the former must necessarily take precedence of the latter.

The abolition of this unscientific and fallacious system must be the keystone of medical reform in England. Without such a change, medicine can never be elevated from a trade to a science, and, so long as a radical vice of this magnitude remains uncorrected, it seems a mere waste of time and power to occupy oneself, as the Hanover-square reformers are now doing, with the subordinate *enfantillage* of collegiate fellowships. I wish they could see how little is thought of a Court here now.

HEAT FROM ELECTRICITY.

M. Despretz is continuing his interesting experiments with the electric pile, some of the results obtained from which he communicated at the last meeting of the Academy of Sciences. Having succeeded in bringing together 600 elements of Bunsen, he submitted to the action of this formidable battery the most refractory metals, and has succeeded in melting or volatilizing them all—platinum, palladium, borium, silicium, titanium, and tungstenium. The hardness of this latter metal is remarkable; nothing but the diamond will act on it, and it may probably be employed for the cutting of glass and turning jewels. It is also possible that the solidity of this metal may be increased by the addition of steel, without any diminution of its hardness; and, if such be the case, then we may have a substance capable of replacing the precious stones in all instruments requiring great precision. It also appears that the battery may be employed to melt the parings of platinum. M. Despretz succeeded in melting eight ounces in a few minutes, and he would have melted a much larger quantity had his charcoal crucibles been sufficiently capacious.

PAINTER'S COLIC.

The diseases to which all persons connected with the manufacture of lead for painting are subject, have long fixed the attention of medical men, and of the authorities charged with the care of public health. It is well known, that, so far back as 1783, M. Guyton-Morveau proposed to substitute the oxyde of zinc for white lead, and thus avoid the accidents occasioned by this latter substance; but all attempts to apply the zinc practically failed, until the recent discoveries of M. Leclaire removed the difficulties.

It would appear, however, that the improvements of modern science enables the manufacture of white lead to be conducted without the slight injury to the health of the workmen. Within a period of ten years, that is, from 1838 to 1847, no less than 3142 patients, labouring under the poisonous effects of lead, have been admitted into the hospitals of Paris; and of these 1898 were furnished from two manufactories alone. Now, Messrs. Lefebre and Co., of Lille, who manufacture 3000 tons of white lead annually, have demonstrated that proper hygienic precautions enable their workmen, 150 in number, to escape the poisonous effects of the metal. Not a single workman had suffered from lead colic for the space of twelve months, during which the new methods were employed. These have been examined by a Committee of the Institut, (MM. Pelouze, Kayer, and Combes,) who have verified the truth of the statement made by the Lille manufacturers, and who conclude, that the evil effects of lead may be completely avoided by the following precautions:—

1°. Mechanical processes should be substituted for manual labour, so as to relieve the workman from the necessity of handling the metal.

2°. Water should be employed during the separation of the chips from the residue of the lead, their pulverization and sifting.

3°. Instead of potting the white lead with water, it should be moulded in prisms or oblong masses.

4°. The white lead should be ground up with oil in the manufactory, and by proper machinery.

5°. All the apparatus employed in pounding, sifting, &c., the white lead, should be used in chambers isolated from the workshops. The issue of any deleterious matters through the necessary orifices in these chambers might be prevented by directing currents of air through the openings, and making the connecting machinery revolve in rings of an elastic material.

6°. Finally, the above measures will be completed by an active ventilation of the workshops, and by the ordinary hygienic precautions familiar to all the workmen.

The Committee are of opinion that the manufacture of white lead will cease to have any injurious effect on the workmen, as soon as it shall be conducted on the above principles.

CITRATE OF MAGNESIA.

This salt may be substituted, in many cases, for the sulphate of magnesia with advantage, for it possesses all the purgative qualities of the latter without its bitter and disagreeable taste. It may be made in the following simple manner:—Take of dry citric acid 14 parts, carbonate of magnesia 10 parts, mix them together and conserve them in well stopped bottles. To prepare, say 30 scruples of the citrate, you take 23½ scruples of this powder and dissolve them in water, and so in proportion, according to the quantity desired.

TREATMENT OF RABIES.

At a recent meeting of the Academy of Sciences, M. Rochet d'Hericourt read a short note on a root and plant which he brought from the north of Abyssinia, and which he believes capable of curing rabies. The powder is prepared from the root by simply removing the bark from the latter, and then drying it; ten to twelve grains, are administered in a small spoonful of honey or milk. In about an hour and a-half, when the patient has been freely purged and vomited by the remedy, he is made to take a large quantity of whey. The patient is soon reduced to a considerable degree of debility by the evacuations; to arrest which, some roasted fowl, very strongly seasoned with pepper, is given to him.

M. Rochet witnessed himself the effects of this powder; and relates the following example of its efficacy.

"Soon after my arrival at Devratabor, a mad dog having bitten three other dogs and a soldier, the King sent for me and said, 'You shall now see the value of the remedy of which I spoke to you.' He then ordered the four dogs to be confined separately. On the following day a spoonful of the remedy was administered to the dog which had bitten the others. It produced, at once, its emetico-cathartic effects, and the animal recovered.

"Eight days afterwards the remedy was given to another of the dogs, in whom the symptoms of rabies were beginning to appear. This animal likewise recovered. In the third dog the symptoms did not appear until the twelfth day, and he also was cured. The fourth animal died, with all the symptoms of rabies, on the forty-second day after the bite. No remedy had been administered to this animal.

"The soldier was not submitted to treatment until the tenth day. He then complained of a sense of weight in the head, which was hot; he was very much depressed, though subject to excesses of passion, spoke little, and had a stupid look. When a cup of hydromel was offered to him, he refused to drink, and a copious saliva escaped from his mouth. A dose of the powder was now given in a spoonful of milk; the usual evacuations ensued, and the man recovered."

A Committee of Hospital Physicians, assisted by M. Pelouze and M. Richard, has been appointed to investigate this interesting subject.

SCOTLAND.

[From our Edinburgh Correspondent.]

For a week or two past several circumstances have tended to keep alive among our brethren in this quarter the discussion of the great principles on which the improvement of medicine depends—a discussion which began for the present with the publication of Dr. Walshe's Introductory Lecture in the *Medical Times*. The lectures delivered at the opening of the Edinburgh Medical Courses often run in this channel, and probably Dr. Walshe's example increased the natural bent on such occasions towards this line of discourse. But the appearance of an article in the *North British Review* for November, entitled "Locke and Sydenham," understood to be from the pen of Dr. John Brown of this city, has had a still more material influence over our speculations on the proper foundations of medical improvement. The author, lamenting that the principles of medicine did not obtain the benefit of Locke's undivided attention, and pointing to Sydenham as exhibiting a model of the kind of mind fitted for their advancement, pronounces mere science to be an insufficient direction in the actual practice of medicine. The article itself is very able as a scientific, as well as a literary production; and, what will best convey an idea of the scope of the principal views maintained in it is the following passage, condensed, as it would seem, by Bacon from Plato:—"Particulars are infinite, and the higher generalities give no sufficient direction in medicine; but the pith of all sciences, that which makes the artsman differ from the inexpert is *in the middle propositions*, which in every particular knowledge, are taken from tradition and experience." We feel much indebted to Dr. Brown for placing this remarkable passage before the Medical Profession, at a time when the higher generalities so often threaten to swallow up all that is valuable in the practical precepts which have accumulated in the past ages of Medicine. When scientific medicine is extolled, to the disparagement of the practical precepts of such lights of the Profession as Sydenham, we should take care to learn the exact sense in which that expression is used. Nor should it be forgotten, at such a moment, that Medicine properly and essentially consists in procuring a change from a state of disease to a state of health. When, then, an enthusiast speaks of the necessity of rendering Medicine purely rational or scientific, our first question to him should be, whether he expects soon to be able to deduce the appropriate treatment from the mere discovery, or supposed discovery, of the nature of the disease. How few cases could be enumerated at present, in which the nature of the disease declares at once, with any measure of exactness, the most approved method

of treatment. Let us try an example. Thus, as soon as it becomes known that heartburn and spasmodic pain of the stomach are dependent chiefly on acid acrimony, science supplies the appropriate remedy in an alkaline agent. And, if we assume for a moment that the nature of the acrimony, which most commonly excites heartburn and spasmodic pain of the stomach, was not known till chemistry proved it to be an acid; and that alkaline remedies were not used against these affections till chemistry had taught the reciprocal relations of acid and alkali, then we have here an exact instance of scientific practice, though but a case of palliation at the utmost. How few cases are parallel to this in simplicity! And let us not fail to remark how many thousands of the human race suffered from heartburn or from spasmodic pain of the stomach before science was sufficiently advanced to point out the remedy from the nature of the affection, and how rude might be the state of knowledge among men at the time when accidental experience could discover that a little chalk, or a bruised shell, or an infusion of the ashes of the hearth, afforded relief to these disorders of the stomach.

But, suppose that science could already lay down a general rule in many diseases; it is well known that most diseases cannot be treated with perfect success without taking into account the peculiarities which each case derives from the constitution of the individual in whom it occurs. Here science almost wholly fails; and there is room for the exercise of what Dr. Thomas Young, as quoted by Dr. Brown, terms "an incommunicable faculty of judgment, and a sagacity which may be called transcendental, as extending beyond the simple combination of all that can be taught by precept." In short, though diseases are not quite analagous to the passions, yet there is a sufficient parallelism between them to afford some illustration of what we have to contend with in the practice of Medicine. Anger, hatred, jealousy, are abnormal states somewhat parallel to diseases, and there are general rules applicable to the soothing of such passions; yet, with how little success will these rules be employed except by those who have had opportunities of becoming acquainted with what is pre-eminently called human nature, and with the varying characters of individuals in society.

Those among us who maintain such views are far from gainsaying the benefits of science in the improvement of Medicine. What they seek is, to preserve the past fruits of experience from being overrun by the novelties of modern science, while they insist, that it belongs to every medical man to cultivate practical sagacity as well as science. They insist, that experience extends the number of remedies even more than science; and cannot help thinking, that some of our enthusiastic partisans of scientific medicine speak and act just now as those would have done in the time of Hippocrates, who should have made light of the fact, that a powdered shell cured heartburn, and asked men to wait for the palliation of that affection till, after the lapse of 2,000 years, the discovery should be made of the mutual neutralising property of an acid and an alkali.

There can be no doubt, that in this, as in other controversies, the contending parties do not clearly understand each other. All are agreed, it is to be supposed, that science—that is, the application of such sciences as physiology, chemistry, and physical science in general—can afford very material help in the improvement of medical practice. Still the controversy does not terminate. According to the one party, because improvements in the practice of medicine have been made by the aid of science, it is not, therefore, to be affirmed, that Medicine itself has become more scientific in its principles; for the mode of applying those scientific discoveries to Medicine may be strictly empirical, notwithstanding that they may rest on principles the most purely scientific. And they think the distinction here pointed at of greater importance than at first sight it may appear to be. And there is not much room for doubt, that one cause of the continuance of this controversy is, that what many contend for, as scientific Medicine, in opposition to what they consider as the result of mere wayward experience, is the simple application of all that is available in human science to the advancement of Medicine, without distinguishing between science applicable to Medicine, and what is strictly Medical Science. But the other party say, the distinction is broad and intelligible. For, say they, scientific Medicine can have no other correct signification than that which teaches the discovery of the treatment from the consideration of the nature of the disease, as in the case before referred to, of acid acrimony removed by alkali; while the science which enables us to appreciate new symptoms, and to present our remedies under more appropriate forms, is, or need be, no more than a valuable aid to purely empirical medicine. For example: wheat and the other cereal grains are known, by experience,—that is, empirically,—to be highly nutritious; but it could not be correctly said, that the theory or science of nutrition was improved, merely because the nutritive properties of those grains had been augmented by a better method of grinding them into flour or meal, owing to new discoveries in the science of mechanics. Neither, they continue, can it be said, when we employ the stethoscope, the microscope, or chemical analysis, for the more exact diagnosis of diseases, that we are extending scientific Medicine, —we are merely employing more exact methods of observation, founded on scientific discoveries. Each new variety of disease pointed out by these methods still requires, in general, to have its appropriate treatment determined by experience. Thus they urge, that rational or scientific Medicine, though not absolutely unknown, has as yet a very narrow basis, and that experience, as regards the effects of remedies, is very nearly the sole foundation of practical Medicine. Further, that the use of science in Medicine is not to enable us to determine, *à priori*, what remedies will cure such and such diseases, but to prepare us to avail ourselves, in the treatment of diseases, of all that the past experience of mankind has taught, and of all that our own opportunities of observation can afford,—and that thus no small office is assigned to science in the exercise of Medicine. There is, in short, they say, the greatest possible use for science in the preparation for practice,—that is to say, for treatment; but, in the treatment itself, that the ancient principle of doing, that which experience has taught to be useful, is the only safe line of conduct. They do not deny, however, that science can suggest, to a very considerable extent, modes of treatment for cautious trial, nor yet, perhaps, that this, in a limited sense, may be termed scientific medicine, and as often as a remedy suggested by science is sanctioned by experience, that a certain credit may be claimed for science. But they deny that there are many practitioners so gifted as to have much success in this line of practice. They also admit, that, in various ways besides, scientific knowledge, physical and chemical, as well as physiological, is capable of affording useful aid in the practice of medicine, without necessarily rendering that practice scientific or rational; that experience, for example, long ago determined, that burnt sponge is useful in bronchocele and scrofula; that chemical science, soon after the discovery of iodine, showed the existence of that substance in burnt sponge, and that a suggestion thus arose, which was quickly verified, that burnt sponge owed its curative power to the presence of iodine. That here, undoubtedly, we are indebted to chemical science for the introduction of iodine as a remedy in practice; but they deny that it can be justly contended, that the use of iodine in practice is an example of the exercise of rational medicine. Lastly, that the same thing is true o fmany other remedies, or that science, aided by the use of analogy, extends the lists of the Materia Medica, by suggesting probable uses for a drug, though its final reception, as a recognised remedy, rests solely on experience. Such is the form which the old contest between the Dogmatics and Empirics, so luminously treated of in the *Medical Times* some months since, has assumed among our brethren in Edinburgh for some weeks past.

SELECTIONS FROM FOREIGN JOURNALS.

THE MODE OF TERMINATION OF NERVES.

The skin of the frog consists of (1) A corium or derma of areolar tissue, the fibres of which are in horizontal layers, but join at certain points, and thus form canals perforating the tissue. (2.) A loose tissue, the fibres of which are united in every direction, and which includes the globular cutaneous glands imbedded in this layer. (3.) Epidermis, the deeper cells of which are pigmentary; while the remainder, as they approach the surface, show the ordinary varieties of shape and consistence. This skin is not everywhere attached to the body of the animal, but only at certain points; where thin membranes (mesodermata) tie it down, and conduct its vessels and nerves. Thus, under the skin there is a considerable space, which is clothed with a serous membrane, forming the undermost layer of all, and duplicatures of which constitute the mesodermata. Thus far to prepare the reader to follow the distribution of nerves in this skin. Hitherto Burdach has described a plexus of nerves on the under surface. Wagner has lately stated a partition of the primitive fibrils on the nictitating membrane of the frog's eye. But beyond this nothing is known.

The want of transparency has hitherto been a great barrier to the investigation of the nerves in the skin of the frog. This is remedied, not by acetic acid, but by splitting it into two laminæ, into which it is readily separated at the point of junction of the layers 1 and 2 just mentioned. The nerves may also be advantageously hardened with corrosive sublimate, by the aid of which the preparations may be kept useful a long time.

The bundles of nerves destined for the skin, protrude between the superficial muscles; and passing through the subcutaneous space, gain the under surface of the skin. Each bundle possesses a proper sheath, provided with nuclei. Some appear to be free, others enclosed in the mesodermata; there is no difference, except in the amount of areolar tissue which ensheathes them. The blood-vessels take the same course, and are mostly clothed with pigment cells.

Thus reaching the skin, the nerves pass between the derma and the serous membrane; covered, usually with some, often with many, pigment cells.

Each bundle of nerves is divided, and usually bifurcated, into subordinate branches. These again bifurcate, and, uniting with the neighbouring branches, form meshes of various polygonal shapes, so that the under surface of the skin is occupied by an unbroken, self continuous network of nerves. The mixture is so manifold, and, by repeated separation and re-union, so intricate, that each branchlet in the plexus consists of fibrils which reached the skin through many different bundles. This network we may call the *plexus nervorum interior seu profundus*.

From the bundles of this network spring many small and large branches, which pass into the canals of the derma previously mentioned; and thus arriving at the looser layer (2), disperse amongst the cutaneous glands, forming the *plexus nervorum superficialis*.

The next question is, "how do the primitive fibres behave in this network, and how do they terminate?"

The latter question remains in abeyance. Formerly, when the undivided character of the new fibril was regarded as ascertained, the question was mainly limited to the alternative of a free looped or a free termination, now it is known that the nerve fibril does divide; but we have no means of deciding whether any or all of its branches end by a free or looped extremity; whether they anastomose with each other, or with twigs of a different fibril. In short, the question is but amplified; the possible terminations are multiplied.

Only direct and careful observation will afford any conclusion, and, hitherto, the difficulties which encompass the subject,—difficulties in part arising from the nature of the substance of the nerves, partly from that of the organs they supply,—have

prevented any solution of the question. Thus, in the electrical organ of the torpedo, in which the most favourable circumstances are present, the last small branches are always traced with indistinct and vanishing outlines, into the basic substance of the organ; and any decision is thus rendered impossible.

In the skin of the frog, the primitive fibrils so rarely take a sufficiently isolated course to be pursued any great distance, that there is even less hope of making out their termination. But they divide, and these divisions occur in considerable number, and at most different parts of the integument. Arriving at the deep plexus, they take part in the formation of several meshes. But although particular fibres were followed for a considerable extent, they were never seen, either to recurve into one or other of the main trunks, or to end with free extremities.

The division of the fibrils, as hitherto seen, is solely dichotomous, although often repeated on the branches. A double type of partition seems to obtain; a fibril either splits into two twigs of equal size, or one of these is much larger than the other. One can scarcely avoid the notion, that in the latter case, the stem fibril gives a single branch, and then pursues its way, while in the former a real bifurcation occurs; somewhat analogous may be observed in the blood vessels.

The angles at which the branches are united to each other and to the stem fibril are worthy of note. They are sometimes obtuse, sometimes acute, some times nearly right angles. Not unseldom one of the branches takes the same direction as the stem; while the smaller of the two, usually breaking off at a nearly right angle, has the appearance of being the single branch. Branches of equal thickness generally form an equal angle with the stem.

The repeated division of the nerve fibres constitutes an unalterable fact, but it may be very differently explained.

Thus, one of the free fibres may be regarded as connected with the central organ, and the others as branches of the first and second rank; or one of the branches with the trunk may be regarded as the ends of a loop, from which a branch arises to bifurcate shortly afterwards; or an anastomosis between two terminal loops may be thus seen.

On further tracing these ramifications some were lost in the deep plexus; others extended through the dermal canals into the looser areolar tissue. One fibril bifurcated five times.

Supposing the sensitive nerves to act as conductors, and to transmit the irritation towards the centre, a solitary conductor will refer it to a *point*, a branched one to a *surface*. In the first case, the sensation is more limited and precise; in the second it is more vague. And if the two branches of one fibril or conductor were irritated by two locally separated bodies, but one impression would result; so, if branches of different nerves overlaid each other, but one impression would result.

Applying this to the integument of the frog, it would appear that an impression is only doubled when it irritates two places supplied by peripheric branches of nerves, which do not interfere with each other, or cover each other. It seems probable that an application of this to man would explain Weber's well known experiments.

Thus, sharpness of feeling and sensibility, are two different things. The skin of the back is sensitive, but is void of discriminating feeling; that by the side of the elbow joint is neither sensitive nor discriminating; that of the lips is both.

The conditions of these qualities appear twofold —the structure of the organ, the mode of division of the nerves.

The *sensibility* of a portion of skin depends—firstly, on the delicacy of the layer which covers the nerves; secondly, on the absolute number of the nerves. Whether this results from a great number of primitive fibrils, or from the splitting and separation of a few, since either of these conditions would result in a lively re-action of the sensitive surface from a slight irritation.

The *fineness* of feeling depends upon the local separation of similar irritations in the sensation. Here all that is necessary in the organ itself is space for the distribution of nerves; while the relative number of primitive fibrils constitutes the most important condition. The more of these present, so as to give separate impressions of different parts of a surface, the finer the perception of the organ. The existence of a substratum of solid consistence beneath these nerves materially assists fine feeling, by affording an object for pressure. The tongue, as contrasted with the finger, may exemplify this.

The nerves are usually constricted at the point of bifurcation, but this condition, like that of the varicose fibres of the brain, is probably abnormal, since in the air-bladder of the pike, examined in a fresh state, nothing of the kind was present; while decomposition increased the constrictions to downright separation.—(Abstract of a Paper by Johann. N. Czermak, in *Muller's Archiv.*, No. III., pp. 251—271.)

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THE MEDICAL TIMES.

SATURDAY, DECEMBER 15, 1849.

SECRET place-hunters, who have tried various bye-paths to Hospital appointments, and who have no hope of advancement but in a cringing subserviency to the Sanhedrim in Lincoln's-inn-fields, have been covering this august body with eulogies for their generosity and their wisdom. They have, at the same time, artfully taken care, to whistle the mocking-bird's note of Reform, that the abject selfishness of their adulation might not be discovered. The Council are described as being "shielded by the armour of truth and justice." *Mirabile dictu!*—their opponents, as "corrupt, mercenary, and ignorant assailants;" and the Ajax of the Council as the "laudable, energetic, and persevering" Mr. Guthrie. This charming triplication of adjectives is the essence and the strength of a good style; and far be it from us "to hint a fault, or hesitate dislike," when this learned Theban has evidently taken so much pains to hammer conviction into his readers by culling promiscuously from Walker and Mrs. Malaprop, the highest authorities upon language recognized in this country.

If, however, we are to believe all we read, we must conclude, that a great reform will, at last, be accomplished; and upon the principle that the vilest sinners always make the most devoted saints, the Council of the College have become the paragons—the shining lights of a new reformation. We have always been hard of faith, and have but little confidence in sudden conversions.

The Council, we are told, are about to confer a twenty years' franchise as a boon upon the Members; and we are further informed that this vast concession ought to be received by them with a paroxysm—an actual epilepsy of delight. Poor Members! we can imagine the horrible contortions of joy into which your frames will be thrown by the reception of this astounding intelligence! A godsend does not come very often, but when it does come, let gratitude have its saturnalia! We should be sorry to play the cynic at so jubilant a festival.

In the first place, then, the College will grant the Fellowship, and therewith the franchise, to Members of twenty years' standing. Can this restriction,—or concession, if you please,—possibly give satisfaction to the General Practitioners of Medicine and Surgery? What superior wisdom does a man of forty-five possess over a man of thirty-five, that can so eminently qualify him to elect a Member of Council? Is it not insulting to suppose that an educated surgeon,—a man with information, sense, and judgment enough to cure disease, and to save lives, is yet too ignorant to be able to choose the man best qualified to guard his interest and spend his money until he has been twenty years, or more, on the Register? This is the liberality of the Council of the College, which we are called upon to admire and to confirm.

Again, how many of the Members, even of twenty years' standing, will enjoy this distinguished privilege? Rumour says, that it is intended that none shall be admitted to the Fellowship, but those who can obtain a testimonial of moral character or fitness from at least *six Fellows!* A modest requisition, truly! Do our readers think that one Member in ten will be on sufficiently intimate terms with half-a-dozen of the Fellows, to ask from them a certificate of character; and, if he were, is it to be supposed that he could condescend to such a humiliating act? Let every country Practitioner figure to himself this position.

The list of Fellows will, by this cunningly-devised restriction, be necessarily kept small—contracted, in fact, to its narrowest limits; and, as for any real advantage that is likely to accrue to the Profession at large from the alteration, we have not the sagacity to perceive it. Will the rapacity of quacks be checked? will Surgeons be able to claim in law? will the educational question be advanced one step? or, will any one great question be brought nearer to a settlement?

Let us narrow the question, however, to the mere claims of the members of the College, and of those in particular who were members antecedent to the great iniquity of 1843. It has been demanded, as a right, that all those gentlemen should be admitted to the Fellowship, on the simple ground of their membership alone. This was a just and reasonable claim. It had its foundation in common honesty, and the Council, by their own Act, have admitted the equity of its principle. "But," say they, "although we recognize the justice of your demands, we cannot humble ourselves to a full acknowledgment of our own errors, and we, therefore, determine that only men of twenty years' standing shall be invested with the fellowship, and not even they, unless they can procure a testimonial from six Fellows and are willing to pay ten guineas for the honour." Members of the College! the insulted of 1843! have you so far forgotten your old wrongs that you can tamely submit to new insults? Can you, who have demanded the free restitution of that original equality, which, as Members of the College, all enjoyed, be content to submit to the new indignity of hawking a begging testi-

monial from door to door, and to supplicate for that position as *a favour* which is yours by an *indefeasible right*? Can you, who have already *purchased* equality of privileges in the College, by paying the same sum as any of the selected Fellows, or any of the privileged Council themselves, be induced, by any artifice, to *buy over again* your unquestionable rights, or suffer an unjust and unmerited exclusion? What are the benefits that the Council propose to confer upon you? *Perpetual exclusion* on the one side, or HUMILIATION and TAXATION on the other! Have you anything to be thankful for? A canine docility is not yours, and you will not caress the hand that smites you.

Well, then, Gentlemen, you shall have the Fellowship, if, upon these terms, you have the spirit that will accept it; and what advantage, after all, will the Profession obtain? Will a Fellow acquire an eligibility for the Council, or for a seat at the Examining Board? Do not be deceived. If he practise as a General Practitioner,—if his hands be polluted with the scent of rhubarb or rose-water, or his sleeve defiled by the examinating gush from a mother's womb,—he will lose his title to the higher offices and distinctions of his College. His humanity will be a blot upon his escutcheon,—his operative skill a disqualification for surgical honours,—his science a bar to his advancement,—and his usefulness a derogation from the dignity of his calling. He will be an outcast from the precincts of purism. Be ignorant of all you ought to know, and you shall be exalted to high places. If you cannot detect Epsom salt from oxalic acid, or describe the difference between a pair of midwifery forceps and a tailor's scissors,—if you can display a certificate, that, in consequence of your ignorance, you had guiltily permitted a woman in labour to perish in her trial, when the aid of surgical science would have saved her life, you will have shown your best and almost your only title to a seat in the Council of the College of Surgeons.

Are these anomalies to continue? Whilst such scandals as these are unredressed, shall we toss our caps in a frenzy of enthusiasm at the liberality of a reforming Council? We say, that nothing has been conceded that has not been forced, and that you will get nothing, either in fact or promise, without contending for it with all the energy of your own stout manhood. There is more common sense, more honesty, and more independence abroad, than some persons give the Profession the credit of possessing. We have never found these great qualities wanting; for, accustomed always to confide in our own principles and instincts, we have fearlessly appealed to yours, and have never been disappointed. We have never consented to folly or wrong because it has been the fashion or the wickedness to praise either, and have generally found, that men, upon questioning themselves, have been of our opinion.

What, then, do we advise you to do? Reject nothing that is an improvement upon your present position: but remove all absurd and oppressive restrictions, protest against unnecessary taxation, and strive to open the franchise much wider than is now contemplated. More than this, you must co-operate to obtain a sound and comprehensive reform for the whole Profession.

MR. BOTTOMLEY'S EXPLANATION.

It appears that the mis-statements of the proceedings at the Hanover-square Conference have not terminated with our exposure of them. The doings of Mr. Bottomley called forth the authoritative notice of Mr. Clifton the Chairman of the meeting, who required that the statements contained in the letter to a contemporary Journal, as they were utterly at variance with the truth, should be corrected. This was, of course, a very awkward demand, and very awkwardly has it been answered;—if answered it can even yet be said to be.

Mr. Bottomley, it seems, attempted, in his usual lucid way, to make some explanation in expiation of his offence, and published, in another journal, what he was pleased to call his "correspondence" with Mr. Clifton, in which a letter was introduced which that gentleman never received. This letter is, of course, intended as an answer to Mr. Clifton's charge of publishing incorrect statements, but we cannot pity the incoherence of its arguments more than we do the want of courtesy and the ignorance of good manners which could permit Mr. Bottomley to act in a mode so inconsistent with the ordinary usages of society as that which has marked his conduct throughout the whole of these transactions.

THE FREE HOSPITAL.

The publicity which the daily papers have afforded to the late trial (a) in the Court of Queen's Bench, renders it unnecessary for us to give more than a very brief abstract of the proceedings.

A child of twelve years fractures its thigh bone in the upper third: it is taken to a Hospital, and, one month after, is attacked with scarlet fever. From such a combination of disorders the reparative process is suspended, and the protracted recovery is only completed at another Hospital. The father of the patient, the grateful recipient of all this priceless kindness, heaps a series of libels and insults on one of his benefactors, and at length mulcts him of a large sum of money, by dragging him into a court of law on a charge of malapraxis.

The main constituents of this general charge are, a want of due surgical skill, both in setting the bone and retaining it in apposition; and neglect by the subordinate nurses. The latter was alleged to have resulted not only in a privation of cleanliness, but in the addition of a venereal disease to the previously existing maladies. The plaintiff backed his case, by recounting some attempts to obtain condonation of these injuries by the defendant and his father.

Every one of these statements appears to have been amply disproved. High surgical authority was adduced to show, that there was nothing in the condition of the child for which the circumstances above mentioned would not amply account. The want of cleanliness was shewn not to have resulted from want of attention. The statement of the venereal disease, denied or disbelieved by the plaintiff's counsel, was not substantiated by any evidence. And, finally, the alleged attempt at compromise and concealment, even had it been really made, would prove nothing; the desire to protect reputation is common to innocence and guilt.

We congratulate the defendant and the Profession generally on the result of this trial. If the ignorant and the malicious are to pry into the details, and criticise the machinery, of a science with which they are utterly unacquainted; if their brutal stupidity is to misconstrue every circumstance into a crime, and reproach the medical attendant with all the phenomena of disease,' who would be found foolish or impious enough to accept medical functions, and thus render himself personally responsible for the speedy recovery of every patient entrusted to his care? Such a monstrous proposition, and such a patient, could only be answered in the words of the King of Israel, "Am I God to kill and to make alive? Consider, I pray you, and see how he seeketh a quarrel against me."

(a) *In forma pauperis*. Quelch *v*. Wakley, *Times* of December 11.

PROGRESS OF CIVILIZATION.

We are happy to see that, for the first time we believe for many hundred years, the remains of an English Sovereign have been permitted to pass to the common resting-place of frail humanity, without being subjected to the barbarous ceremonies with which we are accustomed to *dignify* the funerals of our rulers. Why, when the body has finished its task of furnishing a mansion to the soul, we should attempt to arrest its natural decay, and preserve the material—as if, without the spiritual body, it were more than a mass of dust—we could never determine. It might be very well for the mighty Pharaohs, who thought themselves of finer clay than the slaves who surrounded them, to build pyramids, and to cause their dead bodies to be embalmed in the vain attempt to preserve, even after death, those privileges which separated them from the common herd. But that one who knows that between the peasant and monarch there is no real interval,—that each alike comes of the earth and returns to the earth,—should yet attempt to make a difference between the royal and the plebeian dead, is, to say the least, marvellously inconsistent. It is a proof of the puerility with which men cling to, and attempt the perpetuation of distinctions between man and man, which, nevertheless, the last sob of life inevitably destroys.

So, also, the process of "lying in state,"—which had a real meaning in ancient times, when it was necessary to satisfy the peers that their feudal chief was really dead, and that his successor had, therefore, a just right to their homage,—has lost all utility in these days, when we do not suspect Sir Robert Peel or Lord John Russell of forcibly imprisoning Queen Victoria, or of unjustifiably spreading a report of the death of the Prince of Wales! There is no fear now of any injury being inflicted on a Sovereign which "lying in state" can possibly remedy. The absurd ceremony serves only for the gratification of a puerile curiosity, or for the amusement of idle pleasure-seekers. We have ceased to stick the heads of our criminals on Temple-bar; it will not be long before we shall.

class in the same category of barbarisms of the olden time, the exposure of Royal Dust to the gaze of vulgar loungers.

It is a step in the right direction that the mortal remains of the lamented Queen Dowager have been allowed quietly to pass to their resting-place, without being disturbed by indecent manipulations and senseless ceremonial.

ARCHITECTURAL EXPENDITURE OF THE NAVY AND ITS MEDICAL STAFF.

WHOEVER has read the letter of Sir Charles Napier lately published in the *Times* Newspaper, on the subject of Naval Architecture, will probably agree with us, in wondering at the contrast between the ninety millions of money spent within a few years in building ships and then pulling them to pieces, and the niggardly pay and pertinacious discomfort awarded by the same authorities to the Surgeons and Assistant-Surgeons of the Navy. The ungracious arrangements for their comfort, stand out in bold and prominent contrast with the lavish outlay in the building, and seeming indifference to the demolition of vessels costing such an enormous amount of money. If even a small part of this vast sum had been appropriated to the fair remuneration and adequate accommodation of those of our medical brethren "whose lot is cast upon the waters," it would have been a boon to the service, and would have removed one of those evils to which we have so often alluded, and under which our naval surgeons and assistant-surgeons have so long suffered. The voice of the public will soon be heard with a preventive effect in the ship-building experiments, and then will be the time for this ill-treated but meretorious portion of our Profession energetically to insist upon a just consideration of their claims. We shall be happy to receive communications on the subject, and give all the aid in our power to so good a cause.

REPORTS OF SOCIETIES.

WESTMINSTER MEDICAL SOCIETY.

Nov. 24, 1849.

F. HIRD, Esq., President, in the Chair.

ULCERATION OF THE TONSILS; SECONDARY HÆMORRHAGE, AND LIGATURE OF THE COMMON CAROTID.—OVARIAN DISEASE.

Dr. Daniell spoke of a case of enlarged scrofulous glands in the neck, which he had lately seen in the Middlesex Hospital, under the care of Mr. de Morgan. An abscess had formed and burst. After the patient had been in the Hospital some time, and the ulcer following the abscess was partly healed, the patient complained of sore-throat, the left tonsil being enlarged and inflamed. This continued for a few days, and then ulceration commenced, and made progress. Arterial hæmorrhage, to the extent of two pints, took place from the ulcerated surface, and it was deemed necessary to tie the common carotid, which operation was performed by Mr. de Morgan. There has not been any return of the hæmorrhage since. He (Dr. Daniell) had seen the patient twice since, and found that he was going on well. The centre of the incision which had been made was through a diseased gland; and that part had sloughed; the dead part, however, had separated, and the structures beneath looked healthy. It was difficult, he said, to determine the artery whence the hæmorrhage had issued. The case, in his opinion, was a rare one for hæmorrhage to arise from such a cause.

Mr. I. B. Brown read a paper on the diagnosis of Ovarian Dropsy. Mr. Brown began by observing, that the importance of this subject can scarcely be exaggerated; for, whatever be the treatment, a knowledge, not only of the presence of ovarian disease, but of the precise nature of the disease, is of the greatest moment. Mr. Brown did not on this occasion intend to dwell on ovariotomy, nor to allude to the many cases where the abdominal cavity had been opened, and no ovarian disease whatever had been found to exist. He intended to mention some cases of error in diagnosis which had come under his own personal observation, but before giving these cases, he briefly narrated the general and special signs of ovarian dropsy, both unilocular and multilocular.

The General Signs of Ovarian Dropsy.—Amongst these we must place emaciation of the neck and shoulders, expression of the countenance peculiar, indicating, in a marked manner, the presence of this disease. The face is elongated, thin, and partially shrivelled; anxiety and care are strongly depicted on it. The angles of the nose are drawn downwards, the lips are thinned, the mouth loses its curves—the angle being drawn downwards; the cheeks are furrowed, the eyes are remarkably defined, owing often to the sunken space between the eyelids and the bony margin of the orbit; the skin is thin and pale—in short, the whole of the cellular tissue of the face is atrophied; but, unless the disease be malignant, the skin has not the peculiar aspect which it acquires in malignant disease. The extremities are seldom swollen, as in ascites, and consequently the patient can walk about with comparative ease. There is generally also but little disturbance to digestion, and usually adequate action of the liver. Respiration, and the action of the heart are less disturbed than in ascites, but the heart's action is feeble, owing to the diminution in the whole mass of the blood.

The *special* signs are—First. We can generally trace the commencement of this disease from one of the ovaries deep down in the iliac fossa. A tumour between the rectum and vagina may be felt, either through the walls of the vagina or the rectum; not excessively painful, but elastic. On firmly pressing it, especially at the commencement of the formation of the tumour, you can get it between the thumb in the rectum and the middle finger in the vagina; but you can also frequently feel an egg-like enlargement around the ovary, through the abdominal parietes, especially if the thighs are flexed on the abdomen so as to relax the muscles. This tumour gradually and definitely increases, still maintaining a rounded outline, ascends from the pelvic cavity to the abdominal, rises in front of the bowels, distending the abdominal parietes, and sometimes reaching the ensiform cartilage, pressing up the liver, stomach, pancreas, and spleen, so as to elevate the diaphragm, and thus contract very considerably the thoracic space. This tumour, which, as it ascends, becomes more fluctuating, occupies the side from which it originates; but, whilst it throughout retains a preponderance towards that side, it gradually extends to the opposite. The veins of the abdomen are generally much increased in number and size. The sac containing the fluid being circumscribed, the indications afforded by percussion are circumscribed also, and the sounds on percussion are, of course, dull over the sac, and resonant over the surrounding intestines. On examination per vaginam, fluctuation can be generally felt through its walls, and the vagina itself is elongated and drawn up, sometimes even under the arch of the pubes; the uterus is also either drawn up or pressed back on the rectum. The cyst is generally round and smooth on feeling it through the parietes of the abdomen, and moveable from side to side, and is not materially altered by change of position, either recumbent or upright. These special signs apply more particularly to unilocular ovarian dropsy. In multilocular we almost invariably have an uneven and irregular surface of the cyst, and generally one or more solid tumours which appear inelastic and without fluid; but, in very many cases, these tumours will be found to be additional cysts containing fluid; they are tense, owing to the pressure of the fluid in the larger one. He had frequently found this to be the case, and it is proved by evacuating the contents of the larger cyst, and again introducing the trocar through the canula still in the opening, thrusting it into the apparently solid tumour, and finding immediately an escape of fluid. On examining a multilocular cyst, fluctuation is not distinct if you examine the entire cyst; but, if you tap over any one of the sacs, fluctuation is apparent, but only over that one, not being at all communicated to the adjoining cyst or cysts, where, however, the fluid is gelatinous or albuminous, fluctuation cannot be so readily felt. The same observation applies to the cysts which contain thick cheesy matter, mixed with pus, and somtimes also with hair. He lately met with a case where fluctuation was only perceptible at one spot externally, and at one other spot, through the walls of the vagina. This case, which his friend Mr. Nunn saw with him, as well as Dr. Locock, proved, on tapping, to be filled with a thick cheesy matter, mixed with pus and hair, which escaped with great difficulty through the canula. But, there are also distinct solid tumours in connexion with these fluid ones, and then there is no sense of fluctuation. This observation applies both before and after evacuting the contents of the fluid cysts. Having ascertained the nature of the tumour so far as to say whether it is unilocular or multilocular, the next important subject is, as to the presence of adhesions. In examining for adhesions, Mr. B. directs the patient to be laid in the horizontal posture, and to have the thighs flexed on the abdomen, so as to relax the abdominal parietes. He then moves the cyst from side to side. If this be readily done, there are no adhesions. Again, he place his hand firmly on the relaxed parietes, and moves them over the cyst. If they move readily, he knows there are no adhesions on the upper and lateral surfaces of the cyst. Again, as the parietes are thin in this disease, he grasps and puckers them up and then moves them over the cyst, and also sees if they gather up readily without raising the cyst itself. If he finds these three indications, he determines that there are no adhesions. Another plan, for which he is indebted to his friend Dr. Sibson, is based on the extent to which the contents of the abdomen are forced downwards during a deep inspiration, by the descent of the diaphragm. If there be no adhesions in front, the upper boundary of the ovarian tumour descends to the extent of an inch during a deep inspiration, the place previously occupied by the tumour being taken up by the intestines, consequently, if you percuss over the upper part of the tumour, a dull sound is elicited during ordinary respiration, but when the patient takes a deep inspiration, an intestinal resonance is there perceptible.

Mr. Brown then alluded to those diseases which may be mistaken for ovarian dropsy, and slightly remarked on their peculiar signs, viz.—1st, retroflexion and retroversion of the uterus; 2nd, tumours of the uterus; 3rd, ascites; 4th, pregnancy; 5th, cystic tumours of the abdomen; 6th, distended bladder; 7th, accumulation of air in the intestines, especially if there have been chronic peritonitis, leaving some ascitic fluid; 8th, enlargement of the solid viscera of the abdomen, the liver, spleen, and kidneys; 9th, accumulation of fæces in the intestines. Mr. Brown dwelt on the leading characteristic signs of these different diseases, and showed how they differed, not only from each other, but more especially from ovarian dropsy.

He then narrated the case of a lady who was supposed to suffer from ovarian dropsy, on whom an experimental incision was made through the parietes, to ascertain if extirpation could be effected, when it was ascertained that no cystic tumour existed, but a solid, firmly adherent one attached to the ovaries, with a roughened upper surface, which, rubbing against the peritonæum, caused the secretion of fluid.

The second case was one of ascites, depending on diseased liver, in which twenty London medical men had been consulted; eighteen pronounced it ovarian dropsy, and one proposed extirpation as the only remedy; this patient is now convalescent, after a year's medical treatment directed to the liver and kidneys.

The third was the case of a young lady fourteen years of age, who was supposed to labour under ovarian dropsy, and who was proved, by a *post-mortem* examination, to have suffered from chronic peritonitis, complicated with impacted fæces in the intestines, and some ascitic fluid in the cavity of the peritonæum.

Mr. Travers, jun., inquired of Mr. Brown, whether he had seen or heard of a tumour resulting from retained menstrual fluid from imperforate hymen, being mistaken for ovarian disease? There was such a case, many years ago, in St. Thomas'

Hospital, under the late Dr. Williams. Examination *per vaginam* detected a fluctuating tumour, which was freely opened with an abscess lancet, and a large wash-hand basin was filled with the retained menstrual fluid. The patient was in bad health, and presented general symptoms which led to the belief that the tumour was ovarian. Such a case Mr. Travers thought might again be mistaken for ovarian dropsy.

Mr. Hunt said, that few medical men had not met with cases of enlarged abdomen which had been mistaken for ovarian disease. He had had two such cases himself. One occurred in a middle-aged woman, who complained of spasmodic pain in the abdomen; there was a tumour which occupied chiefly the position of the left kidney, but extended from the ribs to the pubes; it was irregular, nodulated, and firm, and gave no sensation of fluctuation. A physician, who was consulted about the case, looked upon it as ovarian. His own impression was, that it was a collection of fæcal matter, and, with the view of removing it, he injected three or four pints of warm water, with salt, through O'Beirne's tube. There were not much fæces discharged in consequence, nor was there any diminution of the tumour. The injection was repeated on several occasions, with a similar result. Iodiine was then used externally, and arsenic given internally, but without any improvement, and at last all medicines were discontinued. The tumour remained stationary for some time. He was one day sent for, and, on examination, found that all traces of the tumour had disappeared, never to return. She had passed a large quantity of water, slightly tinged with blood, during the previous twenty-four hours. The other case occurred in the person of a married woman, who had a tumour at the lower part of the abdomen, also said to be ovarian. He was called in to see her, on the supposition that she was in labour; the pains resembled those of parturition, but an examination *per vaginam* showed that she was not even pregnant. The uterus was of the usual size, and the vagina small. An old woman, who was present, said she could see and feel the child, and stripped her to show it him. An opiate removed the pain, and she went several miles to see a physician, who said she was in the family way. By free purgation, with repeated doses of aloes, all signs of the tumour were removed.

Mr. Druitt related a case in which ovarian disease had been mistaken for pregnancy, and every preparation made for labour; the pains occurring, were regarded as indicative of approaching parturition. A sound resembling that of the fœtal heart was heard in the tumour. The pains afterwards went off, and, after lingering some time, the unfortunate patient, who had been violated, sunk. An examination of the body showed that the disease was ovarian. [As this case has been published by Mr. Challice, the surgeon in attendance, we do not think it necessary to give the details as fully as Mr. Druitt did to the Society.]

Dr. Murphy had met with cases of large cysts, or tumours, in the abdomen, resembling the pregnant uterus, and accompanied by sounds imitating those of the fœtal heart. He believed that the pulsation was caused by the beating of the patient's heart, and might be discovered to be so, by comparing the pulse of the patient with the supposed fœtal pulsations. He wished to hear from Mr. Brown, how he ascertained the existence of adhesions posteriorly; he thought they could not be recognised readily; he had seen one case in which they existed. With reference to one of the cases mentioned by Mr. Brown, in which Mr. Lane had been consulted, both having made a very careful examination, he could not understand how such a mistake had been made as to treat it as ovarian, when it was simply ascitic. It was very true, that when ovarian tumours and ascites existed together, the diagnosis was very difficult.

Dr. Tilt alluded to the difficulty of diagnosis in ovarian tumours, which, he said, was confirmed by daily experience. The distinction between pregnancy and ovarian disease was one of the most important. Sometimes patients intentionally lead us astray. He remembered the case of a single woman, twenty years of age, under Rayer, at La Charité, with a very voluminous abdomen. Velpeau and others saw her. Some said she had ovarian dropsy, and others, fibrous tumour of the uterus. She was examined daily, but no satisfactory opinion was arrived at. One morning she was delivered of a child. Such cases are not infrequent. Other cases may offer great difficulty in the diagnosis. Ladies who have not borne children for many years, and who are supposed to be past the child-bearing age, may consult a practitioner for a gradually increasing tumour of the abdomen, which may be regarded as ovarian or as some other disease, but which, after all, may prove to be pregnancy. These cases are far from being uncommon. A case in point was that of a lady in the country, who, under such circumstances, and from the opinion that was given her, thought herself in such danger, that she made her will. She was ultimately delivered of an infant. In another case, also supposed to be ovarian disease, the lady was ultimately confined, and the child was still-born—killed (Dr. Tilt said,) by the treatment adopted to cure the supposed disease. It was important to know how to avoid such mistakes. We find under the microscope in the fluid contained in ovarian cysts, blood globules, epithelial scales, false membranes of various degrees of consistence, &c. All these, however, may be found in every kind of cyst. There are, beside these, certain appearances which are met with only in ovarian cysts; namely, a peculiar cell-like appearance, with granular bodies, which seem to separate from the cells, and swim in the circumambient fluid. They have been discovered not only in the ropy or tar-like fluid, but also in the diaphanous or serous contents, the difference being, that in the latter they are very scarce, and far between, and in the other they are very abundant. Their existence has been proved by Quekett and Bennett of Edinburgh and others. As yet, however, they have been found in twelve or fifteen cases only,—not a sufficient number to build a law upon. If it should prove that these bodies exist in the ovarian fluid in every case, we might then, in doubtful instances, by an exploratory puncture procure some of the fluid, and from the presence or absence of these bodies deduce the nature of the disease. This, indeed, has already been done by Dr. Bennett of Edinburgh, who determined a tumour to be ovarian, from the results of such an examination of the contained fluid. Until our diagnosis of ovarian cysts be better founded than it is at present, he (Dr. T.) thought that we are not justified in performing such a serious operation, as that of the removal of the diseased growth. It might happen, as it has already, that the operation might be commenced, and yet no tumour be in existence.

Dr. Sibson commended Mr. Brown's paper, with respect to the diagnosis of adhesions with ovarian cysts, and then referred to the resonance which takes place above the tumour, on taking a deep inspiration, which he attributed to the presence of some of the hollow intestines, pushed downwards by the descending diaphragm during the inspiration. This he regarded as a valuable symptom in diagnosis, showing that adhesions do not exist; at all events, not in front. Dr. Sibson mentioned cases in which he had applied this test, and he believed that the correctness of the diagnosis was verified afterwards in each case.

Dr. Ogier Ward stated, that a woman, past the child-bearing age, had consulted him for an abdominal tumour, which commenced on the left side. Not being able to make out its character, he used the exploring needle, and drew off a quantity of fluid containing epithelial scales, which the microscope showed to resemble those found in the white matter on newly born children. The examination *per vaginam* showed elongation of the uterine neck, the anterior lip of the os being pointed. After death the uterus was found to be full of this peculiar matter, containing, besides a tooth and some hair. He (Dr. Ward) was convinced, he had pierced the uterine cavity with the needle, but no evidence of subsequent inflammation could be discovered.

Mr. H. Smith alluded to two cases illustrating the difficulty of diagnosing the existence of adhesions. In one, the tumour being very large, the presence of extensive adhesions was predicted, and the operation considered to be inadmissible; but it was afterwards ascertained that none existed. In the next case he was requested to assist a surgeon in the removal of an ovarian tumour; the incision was made, when the tumour was found to be adherent in every direction, so that its extirpation could not be practised. The incision was sewn up, and the patient recovered from the effects of the operation.

Dr. Daniell was of opinion that in some cases it is better to be ignorant of the nature of a tumour, than to explore its contents with a needle, when it is doubtful whether it contains fluid. A person is nearer the truth who knows nothing, than he who believes what is false. The diagnosis between ovarian dropsy and ascites was difficult, but it might be aided by bearing in mind that there was less difficulty of breathing in the former than in the latter, and that by placing the patient on her side in the former disease, the fluid would gravitate to that side.

Mr. Brown remarked, in answer to the different speakers, that he had not seen such a case as that mentioned by Mr. Travers, jun., but would make a note of it. It was important. Mr. Hunt's case was probably one of obstruction of the ureter, causing distention of the pelvis of the kidney of that side. Fœtal pulsation alone was not a reliable sign of pregnancy. With respect to adhesions of the tumour posteriorly, he had not met with any such cases. Adhesions chiefly occurred in the upper and lateral parts of the tumour; whatever treatment was adopted, the existence of adhesions posteriorly, was a matter of little practical importance. Mr. Lane's case he did not see more than once, and was not present when the exploratory incision was made. He had seen four or five cases of ovarian cysts, complicated with pregnancy, but had not alluded to them for want of time. The observations made by Dr. Tilt, on the microscopic investigation of the contained fluid in ovarian tumours, he regarded as of great importance. He had himself been occupied in the prosecution of that study for the last two years, with certain results, but his cases were as yet too few to draw any practical conclusions from them.

Death from Chloroform.—Another death from the exhibition of chloroform has occurred at Shrewsbury. The patient was a poor Welch girl named Jones, under the care of Mr. Clements, who administered chloroform to her, prior to the extirpation of the eye-ball. It is said, that only one-third (ʒj) of the usual quantity was given. Death was almost instantaneous. Apoplexy was said to be the cause. We trust Mr. Clements will publish the particulars of the case, with the *post-mortem* appearances. Judging from the disease for which the operation was to have been performed, and the alleged cause of death, we presume that the brain was more or less unhealthy.

HEALTH OF LONDON DURING THE WEEK ENDING DEC. 8.

The Registrar's Weekly Return appears this week, for the first time since June 1848, without a death occurring under the head Cholera. Simultaneously, however, with this fact, we have an increase from typhus over the average of five autumns, but a remarkable decrease on other zymotic diseases.

The total of deaths registered (1053) exceeds those of last week by 122, but are less than the average of five years by 109. A gradual increase has taken place in the last four weeks, when the deaths respectively have been 878, 892, 931, and 1053, and the Registrar states that "the causes of the increase may be discovered in the fact, that whereas deaths from epidemic diseases in these four weeks were respectively 204, 178, 173, and 203, those caused by diseases of the respiratory organs (chiefly bronchitis and pneumonia) were 134, 170, 194, and 203, showing a gradual rise towards the average, which is 214." Influenza appears to be on the increase as to former weeks. A man is reported to have died in Norwood of glanders, caught from a diseased horse.

MORTALITY TABLE,

(Metropolis.)

For the Week ending Saturday, Dec. 8, 1849.

Causes of Death.	Total.	Average of Five Autumns.
All Causes	1058	1162
Specified Causes	1049	1158
Zymotic (or Epidemic, Endemic, and Contagious) Diseases	203	307
Sporadic Diseases:		
Dropsy, Cancer and other Diseases of uncertain or variable seat	61	49
Tubercular Diseases	170	178
Diseases of the brain, Spinal Marrow, Nerves, and Senses	120	135
Diseases of the Heart and Blood vessels	50	40
Diseases of the Lungs, and of the other Organs of Respiration	203	214
Diseases of the Stomach, Liver, and other Organs of Digestion	61	65
Diseases of the Kidneys, &c.	11	11
Childbirth, Diseases of the Uterus, &c.	12	10
Rheumatism, Diseases of the Bones, Joints &c.	9	8
Diseases of the Skin, Cellular Tissue, &c.	2	1
Malformations	...	4
Premature Birth and Debility	25	23
Atrophy	18	18
Age	54	67
Sudden	8	12
Violence, Privation, Cold, and Intemperance	36	36
Causes not Specified	4	4

The following is the number of Deaths occurring from some of the more important special causes:—

Apoplexy......	22	Heart	46	Phthisis	135
Bronchitis ...	86	Hooping cough	18	Pneumonia ...	68
Cholera.........	...	Hydrocephalus	24	Scarlatina	32
Childbirth.....	9	Influenza	9	Small-pox	5
Convulsions...	40	Liver	13	Stomach	8
Diarrhœa.......	17	Lungs	10	Teething	8
Dropsy.........	25	Measles	29	Typhus	51
Erysipelas ...	11	Paralysis	25	Uterus	3

BIRTHS AND DEATHS.

	Births.	Deaths.	Births over Deaths.
Males	710	589	121
Females	628	514	114
Total......	1338	1103	235

METEOROLOGY OF THE WEEK.

Day.	Mean of Barometer.	Mean of Thermometer. Dry.	Ditto. Dew Point.	Difference between the Mean Temperature of the day and the same day on an average of 7 years.	General Direction of Wind. A.M.	General Direction of Wind. P.M.	Amount of Horizontal Movement of the Air. Miles	Rain in Inches.	Electricity.*
Sunday	29·458	47·9	45·9	+ 4·9	S	S. & S.E	120	0·40	Negative electricity with strong tension was exhibited for the most part throughout the morning of Wednesday during rain. Positive with moderate tension was shown at about noon on Thursday; and positive with strong tension on Saturday at 9 p.m., nothing shown at any other time during the week.
Monday......	29·360	39·6	37·9	− 2·7	S.E. & E.N.E.	N.E	125	0·41	
Tuesday......	29·425	33·0	30·2	− 5·2	N.N.E.	N. & W.S.W	10	0·00	
Wednesday.	29·223	41·2	39·2	+ 0·7	W.S.W. & E.S.E.	S.S.E.	125	0·17	
Thursday ...	29·635	46·9	41·6	+ 6·3	E. & S.E	S.S.E.	115	0·04	
Friday	29·414	43·8	39·4	+ 4·4	S.E.	E.S.E.	110	0·00	
Saturday ...	29·301	43·9	39·8	+ 4·7	E.N.E. & W.S.W.	S.W. & S.S.W.	70	0·30	
Means ...	29·419	42·2	39·1	+ 1·4	Variable.		Sum 695	Sum 1·32	

* In this Column, A stands for Active; N. for Negative, and P for Positive.

MEDICAL NEWS.

Royal College of Surgeons.—The following gentlemen, all members of the College, having undergone the necessary examinations, were admitted Fellows of the College, at the meeting of the Council, on the 7th instant:—Messrs. Walter Goodyer Barker, Worthing, Diploma dated Oct. 25, 1839; Frederick John Butler, Winchester, May 8, 1840; George Washbourne Charleton, Gloucester, July 3, 1835; William Druitt, Wimborne Minster, Dorsetshire, July 30, 1841; Nathaniel John Dampier, Woburn-place, Russell-square, May 24, 1844; Sharp Mountain Girdlestone, Lincoln's-inn-fields, Jan. 3, 1845; George William Hind, Alfred-place, Bedford-square, Nov. 3, 1827; Raymond Levi Haynes, Holloway, March 5, 1841; Richard Hodges, Rochford, Essex, July 31, 1843; Edward Charles Hulme, Maisonette, Totness, Devon, April 12, 1844; Robert George Mager, Highgate, May 15, 1829; Edwin Morris, Spalding, Lincolnshire, April 22, 1839; John Marshall, Crescent-place, Mornington-crescent, Aug. 9, 1844; William Potts, South Audley-street, May 8, 1839; Augustin Prichard, Red Lodge, Bristol, Oct. 30, 1840; Edward Ray, Dulwich, Surrey, April 5, 1839; Ebenezer Smith, Billiter-square, March 18, 1831; George Carrick Steel, Chadwell-street, Islington, July 3, 1840; Henry Smith, Caroline-street, Bedford-square, April 24, 1846; John Wiblin, Southampton, June 2, 1837; and Thomas Henry Wakley, Guildford-street, Russell-square, July 25, 1845. We understand, that out of the twenty-two gentlemen who presented themselves for examination only one was rejected.

Obituary.—Last week, Mr. Scuddamore, Surgeon, of Prescot. The unfortunate gentleman was killed by the accidental discharge of a loaded pistol, as he was drawing it from his pocket. The contents entered the groin. Medical assistance was sought, but he died almost immediately. At his residence, 16, Park-walk, Chelsea, Matthew Heir, Esq., late Surgeon to the 66th Foot, aged 78. At Abbey Holme, Cumberland, on the 24th ult., of cholera, C. Maling, Esq., Surgeon, aged 34. At Barbadoes, on the 22nd October, Thomas Whitelaw, Esq., Surgeon, Royal Artillery. On the 20th of October, at Waltair, East Indies, E. L. J. Gaine, Esq., surgeon, H. E. I. C. S. At North Egremont, Cheshire, Mr. John Cheesbrough, Surgeon. On Saturday, the 1st instant, at Llangollen, aged 73, Chas. Worthington, Esq., Surgeon.

War Office.—3rd West India Reg.—Staff Assist.-Surg. Thomas Manners to be Assist.-Surg., vice Deakins, who exchanges.—Hospital Staff.—Assist.-Surg. R. T. Deakins, from the 3rd W. I. Reg., to be Assist.-Surg. to the Forces, vice Manners, who exchanges.

Ordnance Medical Department.—Surgeon J. E. Williams to be Senior Surgeon, *vice* Whitelaw, deceased; Assistant Surgeon J. S. Little, to be Surgeon, *vice* Williams; Temporary Assisting Surgeon W. Perry to be Assistant Surgeon, *vice* Little.

Naval Appointments.—Surgeon Charles W. White (1841) to the Phaeton, fifty-gun frigate, at Sheerness; Assist.-Surg. W. Gruggen (1841) to the Phaeton. Robert J. B. Chambers, to be Surgeon to the Castor, at the Cape of Good Hope.

Indian Appointments.—Surgeon J. Boyd appointed Surgeon, *vice* Doig, and posted to the Presidency division. Surgeon R. R. Rooke, to officiate as Superintending Surgeon, in the absence of Superintending Surgeon Streaker, and to be attached to the Southern division. The last-named officer had been posted to the Southern, and Superintending Surgeon Edwards to the Poonah division. Surgeon Hamilton has been confirmed in the medical charge of the marine battalion, *vice* Boyd. Surgeon B. White to be Medical Storekeeper at the Presidency, *vice* Dr. Boyd. Surgeon Bun is to proceed to Sholapore, and take charge of the 3rd cavalry. This last report is doubted.

The Cholera.—A letter from Gray, in the department of the Upper Saone, states that cholera has broken out with extraordinary intensity in that town.

Baths and Washhouses in London.—The Court of the Common Council of the City of London have recently discussed the propriety of erecting baths and washhouses. The utility and profit of such erections were strongly insisted on, and a resolution was adopted, referring the further consideration of the matter to the Improvement Committee. There is, therefore, reason to hope that London will soon be provided with this inestimable benefit to the poorer classes. Cleanliness is next to godliness.

TO CORRESPONDENTS.

We are sorry that the letters referred to by Dr. Inglis escaped our observation. The many newspapers we receive weekly must plead our excuse. If at any time our correspondents desire to draw our attention to a particular article in a paper, we should esteem it a favour if they would, at the same time, write to us on the subject. A disclaimer on our part of the doctrines to which Dr. Inglis refers, is quite unnecessary. To ask a man to declare he is speaking the truth, is to suppose him capable of telling a lie. We are sure Dr. Inglis does not wish to insult us. He must remember, that the only parts of a journal for which an Editor is responsible, and which, consequently, alone speak the policy and the opinions of the journal itself, are the leading articles, reviews of books, and notices to correspondents. For an accurate transcript of the statements made at Societies we are obliged to trust to our reporter. Dr. Inglis would not wish us to leave out any part of such report because it might seem, to a jaundiced eye, to tell for, or against any man or set of men. We beg to assure Dr. Inglis, however, that we shall not forget a certain trashy publication, the organ of lies and quackery. We hope, in the early numbers of our next volume, to expose the folly of the system and the weakness of its supporters, as well as the devices to which some of its unprincipled advocates have had recourse to bolster up its credit. We have for some little while had the idea of undertaking the task, and have no doubt we shall satisfy our correspondent. To be of use to the Profession, the exposure must be full and complete. A tirade against individuals—a calling of hard names never yet overthrew the weakest cause; nay, such a proceeding adds somewhat of weight to the arguments adduced in its favour by those who seek to dupe the ignorant but good-natured of mankind.

Dr. Milroy's obliging communication has been received.

Mr. Yearsley promises us an early paper upon "False Tympana."

"Mr. Braid, Manchester."—We beg to acknowledge the receipt of a letter, and offer our best thanks for the kind suggestions.

"Mr. W. H. Boresham, Haverhill."—The communication "On the application of Creasote to Burns and Chilblains," shall appear as soon as our space will permit.

"Mr. Samuel Gibbons, Congleton, Cheshire," "On the Microscopic structure of Bone and Cartilage," received.

"Mr. A. C. Lee, Southwark."—Received, and not forgotten.

"A Victim of Misplaced Confidence."—The article on Dr. Simpson's Air tractor has been received.

"Four Eyes," says, that the University College miasma is at work again. The under-scullery maid at the Hospital has given warning, in consequence of the kitchen stuff of late getting small by degrees and beautifully less.

We have great pleasure in announcing that we shall publish in an early Number a communication from Professor Graham, "On a New Property of Gases."

"An Assistant."—1. No. 2. Not so much as in England, in consequence of the great competition.

"Dr. George W. Balfour, Cramond."—Communication received.

Mr. Macilwain shall receive a private communication.

"Mr. Thomas Watson, Chatham."—We will endeavour to comply with the suggestion of our correspondent, but many circumstances are constantly occurring which render it almost impossible.

We have received a reprint from the "Morning Chronicle," headed "Gutta Percha and its Uses." We willingly testify to the fact of the great utility of this article, but have not room for the communication sent.

"Non-Medicus."—We know nothing of the person referred to, any further than that he is both a Member of the College and a quack.

"Mr. T. Davis, Tickenham, near Bristol."—Received.

A Correspondent has forwarded to us the following handbill:—"Messrs. Graham and Armstrong beg to inform the inhabitants of the parish of Farlam, and surrounding neighbourhood, that they have engaged Mr. James Lyon, surgeon, a gentleman of experience and ability, as their assistant in the above district. Mr. Lyon will reside at Hall bank-gate, and his charges for attendance on the workmen and their families, will be on the most moderate scale:—The fee for Midwifery cases will be 10s. for cases within a mile of Hall-bank gate; 12s. 6d. for cases above one and under three miles; and 15s. for cases beyond that distance. Messrs. G. and A. hope the workmen will appreciate the great advantage which will result to themselves and families from having a respectable and properly qualified Medical Practitioner residing among them, and trust they will not fail to patronise him according to his merits.—Brampton, Oct. 22nd, 1849." We regret that such means should be followed by members of the Medical Profession to increase their practice.

"Anti-Humbug."—Received.

The desire of completing Mr. Wardrop's Work obliges us to postpone the publication of many valuable papers. Our Correspondents must accept this apology for any delay which may occur.

Mr. Walton's Lectures will be immediately resumed.

Our Article on Public Hygiene is in type.

Dieffenbach's Work will be continued in an early Number.

"Anti Quack."—In the Act of the 44th of George III., regulating the stamp duties on patent medicines, the City of Edinburgh was not inserted in the column entitled "Scotland;" an amendment to the Act passed in 1812, however, has remedied the defect, and persons in the Scottish capital selling patent medicines, must now take out a license annually, for which they have to pay £2.

"J. L., Birmingham."—"Will Cantharides act as a poison when applied to a wound?" Yes; it has been also known to produce death when applied over a large surface of the body without abrasion of the cuticle.

ORIGINAL LECTURES.

CLINICAL LECTURE ON SOME DISEASES OF THE TESTIS.(a) DELIVERED AT UNIVERSITY COLLEGE HOSPITAL,

By R. QUAIN, F.R.S.,
Professor of Clinical Surgery in University College, and Surgeon to University College Hospital.

[Reported by EDMUND CARVER, M.R.C.S., lately House Surgeon to the Hospital.]

(Continued from page 469.)

SYPHILITIC DISEASE OF THE TESTIS.

A case which is now under treatment among the out-patients, may be usefully placed in juxta-position with the foregoing. The history is briefly this:—

William S——, aged 71, applied 5th February last. He states, that in the preceding March, eleven months before, venereal sores appeared on the penis, for the cure of which, after neglecting to adopt any treatment during six weeks, he took mercury under the direction of a medical gentleman, and was fully salivated. After two months' treatment he was considered to be cured. Subsequently, however, an eruption appeared on the skin, and it was accompanied with sore throat. He now took pills again, and his mouth became a second time very sore.

When this patient came to the hospital, the remains of an eruption, apparently a papular syphilitic one, were distinguishable on his face. Both his eyes were affected with conjunctival inflammation, and the right one with also well marked iritis. The sight of this eye was so dim that only the light could be distinguished with it. The disease yielded steadily to the use of calomel and opium in small doses, administered after some blood had been taken from the temple by means of cupping glasses. He was dismissed cured in March.

In September following, the right testis became swollen and painful, and the enlargement went on very rapidly, the body of the gland and the epididymis being both involved.

In October, while the swelling on the right side was fast subsiding, the left testis became enlarged, but without pain or other indication of any degree of inflammatory action.

Both the glands have improved steadily under the use of mild mercurial medicine, in the form of blue pill, combined with iodide of potassium and sarsaparilla.

Now, what was the exciting cause of this disease? When the right testis became swollen, the redness of the scrotum, the tenderness and the rapid swelling corresponded exactly with a mild attack of inflammation of the gland which arises from gonorrhœa. There was, however, no disease of the urethra; and, no local cause of any kind being discoverable, we had to turn to the disease which had lately been, if it were not still, in a degree, pervading the system. Here the question arises, whether the enlargement of the testes may fairly be numbered among the sequelæ of syphilis? The number of cases in which these organs are affected, in comparison with the number of persons who suffer from syphilitic disease, is so small, that it is not easy to determine whether the morbid condition of the glands be accidental or the direct consequence of the specific disease. Writers upon the subject, however, invariably, I believe, place the testes among the organs which are liable to be involved in the disease in question. In a practical point of view the question is of little importance, because there is no appreciable difference between the enlargement of the gland arising in such circumstances, and that which occurs in a person entirely free from every trace of venereal disease; and, moreover, the most successful treatment of the one and the other is the same, viz., the use of a mercurial preparation, except where the administration of this medicine is contra indicated by the condition of the patient's health.

SCROFULOUS DISEASE AND CHOLESTEOTOMA.

The third case differs altogether from those already noticed; and it presents some points of peculiar interest.

Joseph C., aged 30; admitted Feb. 16; married; a fishmonger by trade; native of London. He is of spare habit of body, of fair complexion, with very thin, delicate skin; but has never had any enlargement of the lymphatic glands about the neck or elsewhere. Had gonorrhœa eleven years ago. States that his father died of erysipelas and scrofula.

It appears that, about a year and a half ago, matter formed in the right testis, and the abscess was opened after the lapse of three months. He then slowly recovered; but some swelling still remained where the abscess had formed. Subsequently, he suffered much from pain, especially about the hips and back, and a swelling again appeared at the lower part of the scrotum. This, likewise, was opened, and matter was evacuated.

At present, this patient's health is much impaired from continued pain and discharge of matter, though this is but in small quantity. The pain darts from the right testis, along the groin, and down to the back of the leg. When he moves, he suffers from pain in the lumbar region. There is slight tenderness on pressure, over the gluteal region, more particularly on the right side. His chief suffering is occasioned by the pain in this part.

The right testis is enlarged to about the size of a hen's egg, and it is firm and hard to the feel. The epididymis is indurated, and the cord is somewhat thickened. There has for some time been occasional difficulty in passing water, and there has also been a slight puriform discharge from the urethra. By means of bougie No 7, a stricture was discovered; but the instrument was passed with little obstruction. The scrotum, at its lower end and on the right side, is indurated, and a thin discharge issues through a small ulcerated opening. Higher up, the scrotum is adherent to the testis. With the upper end of the epididymis of the left side is connected a small cartilaginous or fibro-cartilaginous nodule, larger than a pea. When this body is pressed, the same kind of pain is felt over the left side of the pelvis (the gluteal region) as that noticed on the right side. It is, however, less severe, and does not extend to the thigh.

Observations.—In our inquiry into the nature of this case, we proceed directly to the testis and the epididymis, the outline of both these parts being at once distinguishable by the touch. If the tunica vaginalis contained fluid (the usual product of disease affecting it) in any quantity, the gland and its appendage would be shut out as it were from examination. The testis itself is said to be enlarged, while the epididymis is indurated as well as augmented in size; but, considering the length of time the morbid condition has existed (a year and a half), the alteration of the size is not considerable. In the same space of time, either of the two diseases mentioned in a former part of the lecture, namely, the "chronic enlargement" and the "encephaloid disease," which, apart from the acute inflammation arising in connexion with gonorrhœa, are the diseases most frequently met with in the organ, would have attained a much greater size, and would have altered the gland in a greater degree. Passing away, then, from any more detailed reference to those diseases, I may state at once that the history of the case corresponds in many respects with that of the scrofulous deposit in the testis. The epididymis was first and chiefly affected: a small abscess formed in that part, and was discharged through an ulcerated opening in the skin. One such abscess being healed, another and another formed, and followed the same course. The progress of the morbid action has thus been altogether very slow. Such is in fact the general course of events in scrofulous disease. And with the progress and character of the local disorder must be associated the general condition and appearance of the patient, which were those of a person likely to suffer from scrofulous or tuberculous disease.

In the treatment, the first objects sought to be attained were the improvement of the patient's general condition and the enlargement of the urethra. With a view to the former of these objects, he took at different times, besides being allowed a nutritious diet, liquor. potassæ, quinine, and a preparation of steel. Under this treatment the health was decidedly ameliorated, at the same time that the condition of the urethra was much improved by the use of bougies. Still the disease in the scrotum and the pain over the hip and along the thigh continued, with little or no abatement. In order now to decide upon the course to be adopted, with a view to afford permanent relief, we must inquire if there be any connexion between the actual diseases, as well as between these and the great source of the patient's suffering. And first: Did the condition of the urethra give rise to the disease of the testis? To this I would answer, that the kind of this disease was not that which results from stricture of the urinary canal; and, at all events, it has been seen, that the restoration of the urethra to a healthy state was not attended with corresponding amelioration of the disorder in the scrotum.

Again, What is the cause of the extreme pain in the limb? The following facts bear upon the question:—Where the pain was most sensibly felt there was no disease; and the pain was not generally augmented by pressure. It was accidentally found, that pain of the same kind, and in a corresponding situation, though less severe and less extensive, was produced upon the left side by compressing the small fibro-cartilaginous body connected with the epididymis of that side. Again, in most cases of hernia humoralis, pain is felt beneath the ribs, and even upon the hip; but the suffering from this cause is usually not considerable, at least when compared with that experienced by our present patient. Still I have observed even more severe. I have just now under my care a gentleman suffering from that complication of gonorrhœa, in whom the pain has extended over the loins, the pelvis, the thigh, and along the leg, even to the great toe; and it has been on two occasions so acute, (first from one testis being inflamed, and then the other,) that fits of what might be named hysterical sobbing have come on in consequence of the severity of the suffering. This patient is a person of very nervous temperament, and he is so by inheritance. He was, it may be mentioned, completely relieved of each neuralgic attack by a dose of liquor opii sedativus. These considerations lead us to the conclusion, that the diseased condition of the testis and scrotum was the original cause of the pain on the posterior aspect of the limb, the nervous connexions serving in this, as in some other cases, to explain the phenomenon.

As to the treatment: if the patient had been able to follow, his occupations without much suffering, (as it generally happens with a like amount of apparent disease,) I would have advised only a tonic and palliative plan of treatment, in the expectation that in this, as in other similar instances, the local disease would subside, leaving the testis, very probably, in a state of atrophy. But the poor man had already endured great pain for a protracted period, being thereby debarred from supporting himself or his family, and it was not possible t afford him a well grounded assurance, that, by following any plan of remedial treatment, his suffering would soon terminate. He desired, then, that the testis should be removed, and I thought its removal the wisest course for him.

After the operation the wound quickly healed, and the patient speedily left the Hospital much improved in every way, and entirely free from pain.

Examination of the Testis.—It is larger, and somewhat firmer than natural. A longitudinal section being made, it is found that the rete testis and the greater part of the epididymis (all except its globus minor) are wanting. The place of the seminal tubes that belong to these parts is occupied with dense fibro-cellular substance; and in this structure are two detached masses of soft opaque yellow matter, to all appearance scrofulous. The skin of the scrotum is firmly adherent over this part.

The body of the gland and the small remaining part of the epididymis are thickly studded throughout with minute rounded bodies which are white, opaque, and may be said to be pearly in appearance

These corpuscles resemble particles of very clear white wax or spermaceti, but they are not brittle like the latter substance. They separate entire from the seminal tubes.

From the statement respecting the testis and its appendage, it is obvious that the restoration of the organ to a healthy state was impossible, the glandular structure being wholly separated from the excretory duct.

The morbid deposit, which in the upper part of the epididymis was probably associated with the scrofulous disease, but was elsewhere independent of it, seems to correspond with the description of a substance well described by Professor Cruveilhier (" *Anatomie Pathologique,*" livr. II. and V.) and Professor Müller (" *On Cancer,*" *translated by Dr. West*, p. 155), and named by the latter observer cholesteotoma. It is a peculiar fatty matter; and, when chemically examined, has been found to consist of cholesterine and stearine. Under the microscope, with a high power, it is seen to be composed of irregular cells.

The preparation before you and the drawings, which were made for me under the kind superintendence of Mr. Quecket, illustrate the facts I have enumerated. One of the drawings represents cells filled with granular matter—magnified 400 diameters. A portion of a healthy seminal tube, and another piece enlarged in consequence of proximity to the disease, are delineated in these two figures, both being magnified 170 diameters.

Cholesteotoma has been met with in masses of of various sizes (some very large) and in many parts of the body, but most frequently in the brain. It has been found associated with other diseased formations, even with cancer; but it is not at all a malignant substance, seeming to act injuriously on the organ in which it is deposited, only by its mass. The corpuscles, in the case before us, caused by their pressure a varicose condition of the seminal tubes. In time, and by its increase, the deposit would probably have led to the entire absorption of the gland.—For a succinct account of all that has been hitherto ascertained about this substance, see Dr. Walshe's Essay, entitled, "Products (Adventitious,)" in Dr. Todd's "Cyclopædia of Anatomy and Physiology," Vol. III., p. 98.

After he left the Hospital, this patient had a return of the old pain upon the pelvis and the thigh, but I have ascertained that, in consequence of some imprudence, the cicatrix had re opened at the time and had assumed a somewhat angry appearance.

More recently (October 27) he has come to the Hospital to be examined, and the following report has been taken. Now nine months since the operation was performed, the wound is firmly cicatrised, and there is no pain whatever about the scrotum. But he states, that when the weather is warm the pain from which he formerly suffered becomes troublesome, though he is quite free from it while the temperature is cool. The uneasy feeling is not in the slightest degree augmented by pressure of any kind, whether light or hard. The urethra admits the bougies Nos. 9 and 10 easily. The kidneys and the urinary bladder give no indication of disease. He is ordered to take a preparation of steel continuously and in gradually augmented doses.

Nov. 27.—To day the patient reports that he has experienced much relief from pain, insomuch that he has been able to walk a long distance without inconvenience, since he has taken medicine prescribed ten days ago, viz., ferri sesqui-oxidi, ʒss in treacle three times daily. And he adds, that being without the medicine for two days, while in the country, there was a recurrence of his suffering during that time.—The dose to be augmented.

The first return of the pain over the pelvis seems to be attributable, in conformity with the facts and reasoning in a previous part of the lecture, to the condition of the cicatrix at the time. But how are we to explain the recurrence of it, which is said by the patient to have been owing to changes of temperature, seeing that the scrotum is firmly healed, and that no irritation or uneasiness is present in this part? It may be that the physical alteration, which though inappreciable to our senses, probably accompanies the long-continued presence of pain in a part, is re-excited under the influence of atmospheric changes acting upon a person of feeble constitution. Be this, however, as it may, there is every probability that our patient is now about to be permanently relieved of his suffering, for the preparation of steel (a medicine which, before the operation, failed to afford him any relief) has speedily produced a very beneficial effect.

ORIGINAL CONTRIBUTIONS.

CASE OF POPLITEAL ANEURISM CURED BY COMPRESSION.

By HENRY THOMPSON, M D., Surgeon to the Tyrone Infirmary.

John Hughes, aged 30, unmarried, of florid, healthy appearance, though somewhat emaciated, hitherto free from disease, with the exception of primary symptoms of syphilis, which left a cicatrix in the right groin, and for which he had been successfully treated with mercury about three years before, was admitted into the Tyrone Infirmary on the 22nd of September, 1849. His occupation was that of a canal boatman; in the exercise of which he was subject to violent exertions of the lower limbs in tracking boats, carrying heavy burthens, and leaping across wide drains. He had just travelled a distance of twenty-one miles on a cart, and was suffering great pain and distress from a tumour, which filled the right popliteal space, and extended downwards into the upper third of the calf of the leg, increasing the circumference of the limb, at the tubercle of the tibia, to the extent of 4½ inches beyond that of the opposite side, the measurements being—round tubercle, 15¼ inches; an inch lower down, the largest part, 15¾ inches. The tumour was of a somewhat globular form and regular outline, not clearly defined to the eye, in consequence of the swelling and congestion of the leg which accompanied it; but its limits easily ascertained by the touch, from its tense and elastic firmness and the bursting sensation, caused by a diastolic pulsation, communicated by each throb of the heart to every point of its surface. This pulsation, accompanied by a rushing bellows murmur, was easily commanded, but without any diminution in the size of the tumour. The appearance of the integuments did not differ from that of the rest of the limb, except in one spot, corresponding to the centre of the popliteal space, where, to the extent of a penny, an evident elevation, a distinct softness, a dusky redness, and a tenderness, indicated this as the position in which the opening was to be expected, and in which the process of thinning had already made considerable progress. The knee was flexed to a right angle, and could not be extended in the least. The foot was swollen to nearly double its natural thickness, but did not pit. The cutaneous veins of the leg were full, the integuments of purplish red shade, the whole leg hotter than natural, and swollen so as to be an inch thicker than the other immediately above the ankle, the superficial glands in the groin enlarged and tender. He complained of a numbness of feeling, with a tingling sensation in the foot and outside of the leg. He had just taken a glass of spirits, and his face was flushed, skin hot, pulse 120, tongue foul, bowels confined.

About four months ago he first perceived a small swelling, which he describes as "a welt with a beating in it" running across his ham. It was preceded by some feeling of numbness and weakness in the limb, which obliged him to confine himself to the boat, and give up walking about. Two months ago, in consequence of the increase of the swelling, he became unable to extend the limb, and was forced to confine himself to bed until he was seen by a Medical man, who advised him to go into hospital to have the operation performed. He presented no symptom of any other lesion of the circulating system.

He was placed in bed, with a pillow supporting the outside of the limb. Ordered low diet and the following medicine:—

℞ Hyd. submur. v. gr.; pulv. jal. c. ʒss.; ditto, zingib. gr. i. in pulv. statim sumend.; and after about two hours, when he had become somewhat tranquillised, one of Read's thigh clamps was so applied as to command the pulsation in the tumour. It returned, however, after about half an hour, and it was found impossible, from the pain and distress it occasioned, to continue it longer than three hours, when it was removed, and a wet cloth laid over the limb.

23rd.—Had some sleep, and feels somewhat easier; bowels freely opened. The pressure was again attempted, but caused such pain at the point of pressure, starting of the limb, and venous congestion, that it was not kept up for more than three hours, and that very imperfectly; but still so as to moderate very considerably the pulsation.

24th.—Suffered a great deal of pain in the tumour last night, with increased numbness in the leg and foot, the swelling of which is also increased; it now pits on pressure; pulsation in tumour as vigorous as ever; face flushed, and skin hot; pulse 100, full and strong Venesectio ad ℥xvi.

A quarter grain tartar emetic in solution every third hour; pressure discontinued.

Evening.—Nauseated all day; limb much easier.

25.—I had pressure kept up for six hours last night by relays of assistants using their fingers; but even this he could not bear on the same point for more than half an hour at a time, and described the pain it occasioned as even less supportable than the clamp. Size of tumour rather increased, pulsation undiminished, and appearance of pointing in the ham decidedly more evident. Discouraged by the apparent impracticability of persevering in the pressure, I made up my mind to tie the artery, and was actually about to proceed to the operation, when closely examining the foot, which presented a livid blush over the ball of the great toe and inside of instep, I perceived that these parts had lost their sensibility, and the cuticle had a loosened, shrivelled look, as if just about to vesicate. A thermometer, held between the toes, indicated a temperature four degrees above that of the opposite side. Regarding these symptoms as conclusive indications against the ligature. I represented to the man, that amputation would be a preferable proceeding, to this he reluctantly agreed; but as there was no immediate necessity for this last alternative, I continued the tartar emetic and the cold application, and added ten drops of Battley's sedative at night.

26th.—He passed a good night, quite free from pain, and I found the limb much improved; swelling and congestion less; pulse 84; bowels confined. Stopped tartar emetic. Ordered haust. misturæ purgantis; continue cold application to limb.

27th.—Appearances unchanged; strong pulsation in tumour; feels no pain, except femoral artery is compressed, when the burning feeling in the foot becomes insupportable. I found, however, that by changing the compressing force to a point immediately below Poupart's ligament, this pain was rendered so much less that he could bear it. I therefore arranged a clamp in such a manner, that it kept up a degree of compression upon this point sufficient to arrest the circulation in the tumour. I commenced this at half-past nine, a.m., placing a pupil to watch and screw down the pad whenever pulsation should return. The enlarged glands in the groin greatly interfere with the application of the pressure in this situation. However, by slightly varying the point it was kept up, though very imperfectly, the pulsation never entirely absent for more than three quarters of an hour at a time, until six p.m., when the clamps were removed for the night. At the commencement of the pressure this morning he got a draught containing ten drops of Battley's sedative, and is taking the following mixture:—

℞ Tincturæ digitalis, ʒi.; aquæ lauro cerasi, ʒiij.; mist. camphoræ, ℥vss.; cap. ℥i. Quaque tertia horâ.

At nine p.m. had another draught of ten drops of Battley's sedative.

28th.—Very easy night; quite free from pain; pulsation as strong, as diastolic, and as superficial as ever, particularly posteriorly, where, however,

the appearance of pointing is not increased. The congestion of the limb caused by the pressure yesterday has entirely subsided, leaving the original œdema as before. There is a diminution in the circumference of the tumour to the extent of three-eighths of an inch. He is tranquil and easy. Pulse 90; face still florid, and circulation vigorous. Read's pelvic clamp was fitted better to-day, a pad of chamois leather having been placed over the vessel as it crosses the ramus of the pubis, and the compressing force made to bear accurately and perpendicularly on it, so as completely to command the pulsation. The congested appearance of the limb immediately ensued, but he felt much less uneasiness from the pressure. An anastomosing branch as large as the temporal has made its appearance along the inside of the knee, pulsating strongly whenever the pressure is removed.

10 p.m.—The pressure has been kept up with little intermission for the last twelve hours, varying the point to the extent of about two inches, by means of a second clamp placed lower down on the limb, and latterly by merely changing the moveable arm of the pelvic one. The pulsation returns generally at the end of each hour or so, and requires some change to get it under control again; but it is now evidently becoming feebler, less diastolic, and commanded by a much slighter force; the man bears it better, too, and only complains of the point pressed, no longer of the foot and leg, which, though much swollen, are less congested, and have recovered their natural sensibility, but lose their heat during compression to the extent of about four degrees. The patient is in good spirits, and does all he can to assist the treatment. The Digitalis mixture is continued, with a sedative draught at night.

11½ p.m.—The pressure of the apparatus became so painful, that I removed it, and found the force of the pulsation much lessened, and its diastolic character gone, except between two points, the centre of the ham, and a little below the head of the fibula; in every other part it had ceased.

Sept. 29th.—Had a good night; tumour more solid. The pulsations which remains can scarcely be called diastolic, and is so defined and linear, that it is quite doubtful if it be not in two anastomosing vessels. No bruit now; dimensions of tumour unaltered. Clamps re-applied.

Sept. 30th, 1 a.m.—The compression was kept up with little intermission the whole of yesterday, and the pulsation perfectly commanded, except for a few seconds, during the changing of the pads, which was necessary, at intervals of from three quarters of an hour to an hour and a half. Pulse 70; small and feeble; spirits good. Finding him much fatigued, I removed the apparatus, and found the pulsation very feeble, and confined to a line in the centre of the ham, where the appearance of pointing had been most manifest.

Haust. Lq. opii sed. gtt. xxv. Misturæ purgantis, ℨij., sum. mane.

Half-past 10 a.m.—A remote and indistinct return of pulsation on the outside, that posteriorly somewhat stronger and over a larger space. Pressure re-applied.

October 1st.—The pressure was discontinued at four p.m., yesterday. The pulsation, which remains posteriorly and on the outside, assumes more and more the character of an enlarging vessel. Tumour becoming more circumscribed by the subsidence of the surrounding œdema; now feels very solid, has had no pain in it latterly. Pressure discontinued altogether.

Evening.—Since the middle of the day he perceived a considerable increase in the temperature of ... is entirely gone; sensibility perfect; considerable œdema remains. Anastomosing vessels round knee perceptibly enlarging, so that the pulsation of one which follows the course of saphenus nerve is quite visible, and the femoral cannot be traced beyond the origin of this branch about the opening in the triceps. Neither of the tibial arteries can be felt, though remarkably large, and easily detected in the opposite limb; œdema of limb much diminished, and boundaries of tumour becoming very defined; it feels solid, and quite free from pulsation. He is perfectly tranquil, free from any uneasiness, and can now extend the leg to an angle of 45. Pulse 72. Applied a bandage from toes up lightly, compressing the limb and tumour. Omit digitalis mixture.

Oct. 3rd.—All going on well; circumference round turbercle of tibia 14¼; round largest part 14¾; œdema of foot much less. Ordered 12oz. of bread, a pint of milk, and a pint of tea in the day. He has been on low diet; half a pound of bread, and a quart of whey, until to-day.

5th.—Round tubercle 14; below 14½; bandage continued.

7th.—Bandage caused pain from its tightness; no change in measurements. Omit bandage; friction, with soap liniment.

11th.—Round tubercle 13¾, below 14. Can extend the limb so as to touch the ground with his toes; when he stands erect all œdema gone, except about heel and toes. He has been up these two days, moving about on a crutch, the limb firmly bandaged. General health excellent; allowed full diet.

20th.—No change in dimensions of tumour; can extend the limb so as to put the heel within an inch of the ground when he stands erect. No pulsation, but a remote and indistinct click is heard, synchronous with the pulse, on applying the stethoscope posteriorly. I re-applied the clamp, and kept up the pressure tolerably perfectly for twelve hours.

21st.—Applied a tight bandage after friction, with turpentine liniment.

Nov. 10th.—Has been using the liniment ever since; now walks about without much lameness, extending the limb completely; there is still, however, considerable enlargement at the upper part of the calf of the leg, beneath the femoral origins of the gastrocnemius. The tumour has greatly diminished in its vertical diameter, though not much in its circumference. Pulsation in anastomosing vessels much less evident than when they first began to enlarge.

14th.—Circumference round tubercle 13 in., an inch lower, 13½; tumour gradually but steadily diminishing; no return of pulsation in tibial arteries; use of limb becoming more perfect every day.

Tyrone Infirmary, Nov. 11, 1849.

[We congratulate our Correspondent on the result of this interesting case,—an additional unit to the list made out by his countryman, Dr. Bellingham. We would have used the *double* clamp, perhaps, from the beginning—gradually, but steadily. We have seen the best effects from it. And, towards the latter end of the case, electricity has proved a valuable adjunct. The case is in every way worthy of Dr. Thompson's skill and assiduity.—Ed.]

HOSPITAL REPORTS.

KING'S COLLEGE HOSPITAL.

The most interesting class of tumours the Surgeon has to deal with are those situated in the region of the neck. A formidable looking growth of thirty years' standing, was removed by Mr. Fergusson from the region of the parotid gland, on Saturday last. The morbid mass was seated on the right side, and was firmly adherent to the fascia, in consequence of inflammatory action, which had of late been going on, accompanied with much pain. The patient had obstinately refused any attempt for its removal, as until lately he had suffered no material inconvenience from it; but latterly he had urgently wished an operation, as he felt so much pain in the tumour. The mass extended considerably over the face, and involved the textures behind the neck of the jaw, and, although it was free and moveable in the former direction, its connexions appeared to be firm, and deeply seated behind.

Mr. Fergusson commenced the operation by making an incision about an inch and a half from the corner of the mouth, continuing it across the tumour to the outer side of the sterno-mastoid muscle. This was crossed by another cut, commencing just below the ear, and carried downwards over the mass. The flaps of skin were then cautiously dissected back, particularly over the posterior part of the tumour. And after some careful manipulation the whole of the mass was removed. The bleeding was by no means extensive; seven small vessels required a ligature.

Mr. Fergusson endeavoured to avoid dividing the portio dura, but, from the appearance of the patient before he left the theatre, he considered it doubtful as to whether he had not done so. The flaps were stitched together, and a compress of lint, and a bandage was applied.

On a section of the tumour it was found to consist partly of a fibro-gelatinous tissue, partly of a cerebriform nature, and in the upper portion of it was a cyst.

Mr. Fergusson was of opinion, that the tumour was originally of a non-malignant nature, but that it might latterly have degenerated into a malignant growth. He should have it thoroughly examined, and would report to the students the result of such examination.

PROGRESS OF MEDICAL SCIENCE.

FRANCE.

(From our Paris Correspondent.)

TREATMENT OF HYDROCEPHALUS.

Every one is acquainted with the difficulty of finding any effectual treatment for this disease, especially for that most dangerous form known as "tubercular meningitis." M. Hahn, physician to the hospital at Aix, recommends strongly the following method, in cases where the disease has already made some progress before the medical attendant has been called in. Dr. Hahn's method consists in employing tartar emetic ointment in friction on the scalp, which is previously shaved. The ointment is rubbed in for ten minutes at a time, and a piece of linen besmeared with it is then placed on the head. The frictions are renewed every two hours, until the pustules begin to appear. The effects are, of course, very severe. The whole scalp becomes inflamed, and numerous small ulcers are formed, which heal with difficulty, and generally destroy the points of the scalp in which they were situate. The author affirms that he has employed this severe, but absolutely necessary mode of treatment, with success for the last twenty years, having thereby saved more than a dozen children, whose lives would have been inevitably sacrificed but for it.

GUTTA PERCHA BOUGIES.

From some cases published in the *Medical Gazette*, it would appear that the use of these bougies has been followed at St. George's Hospital by unpleasant consequences, the bougies having unrolled and a portion remained in the bladder. M. Civiale, in a short conversation on this subject, mentioned to me that the accident probably depended on the manner in which the gutta percha bougies are manufactured in England. They are made by rolling a band or strip of the substance round a stylet, and then applying heat. Hence, they are subject to unroll. In France, the line of puncture runs along the whole length of the bougie, and accidents of the kind mentioned by Mr. Hawkins never occur. M. Civiale states also, that, so far from having observed any irritation produced by the contact of gutta purcha bougies with the mucous membrane, he has found that they remain in the urethra a much longer time without inconvenience than those of Indian rubber.

PRESERVATION OF LEECHES.

The increasing price of leeches, and the great difficulty of procuring them, almost at any price, render it a matter of great importance to discover the best method of preserving them. Leeches kept in the ordinary manner secrete a quantity of gelatinous matter, which becomes attached to their bodies, and soon kills them. M. Dominé has observed that nothing enables leeches better to get rid of this gelatinous matter than moss. This must be selected as green as possible, washed and perfectly cleaned, then placed in a bottle (a quart one for 100 leeches). During the heat of summer it will

be well to place a little water in the bottle. During winter they need not be changed often; but in summer the moss must be changed every second day, and the leeches kept in a cool cellar. Following these simple rules, M. Dominé has been able to preserve his leeches in perfect vigour, and with very moderate loss, considering the numbers preserved.

CONTRACTION CURED BY VAPOUR.

A curious case of this kind occurred a short time back at the Hôtel Dieu, in the practice of M. Jobert. Worthy of notice, rather from the simplicity of the means employed to relieve, than from the nature or symptoms of the malady. A young girl had pricked the palm of the hand with a needle. Soon after this slight accident contraction of the flexor muscles set in, and after three months had arrived at such a pitch, that the nails seemed as if they would be driven through the skin. Almost every imaginable remedy had been tried without success, when M. Jobert thought of trying the effects of a vapour douche. The first application gave relief, and after the second one, the power of extension was so complete, that the patient appeared to be completely cured.

CHOLERA HONOURS.

M. Louis Lucien Bonaparte, cousin of the President, has received the decoration of the Legion of Honour, "for the services which he has rendered to practical chemistry during his long exile; for his experiments and publications; for his persevering efforts to make France loved and respected in Italy, by publishing in that country the discoveries of the French school." So the Gazette informs us, obeying a wise law recently enacted, to the effect, "that the titles to the honour of decoration shall be published with each appointment." To the Medical Profession M. Louis Lucien Bonaparte is favourably known as the discoverer of the valerianate of zinc, and many other pharmaceutical improvements.

SCOTLAND.

[From our Edinburgh Correspondent.]

The second meeting of the Edinburgh Medico-Chirurgical Society took place on Wednesday, December 5th, Mr. Syme, the President, in the chair.

Dr. Andrew read an account of a singular case, which had been partly under his care, partly under that of Dr. William Robertson, in the Royal Infirmary last autumn. The patient was a soldier's wife, who had been for a few days under treatment in Edinburgh Castle, before being brought to the Infirmary. The chief symptoms had the appearance of being referrible to malignant disease of the pelvis, there being at the same time some indications, though by no means unequivocal, of the existence of pregnancy. From the first there was considerable swelling of the right labium, and enlargement of the left side of the abdomen, latterly reaching as high as the left hypochondrium. The os uteri could not be detected. There was a distinct areola round the nipple, but the mammæ were flaccid. The stethoscope discovered what seemed a placental bruit, but no sound like that of the fœtal heart could be made out. When one hand was applied to the right side, and the other previously made cold was placed over the swelling on the left side, motions were imparted to the hand like those of a living fœtus. After the patient had been some time in the Infirmary, a fluctuating tumor was felt through the parietes of the vagina, which it was proposed to evacuate, but the rapid failure of her strength prevented this proceeding. During the six weeks she was in the Infirmary before her death, various changes took place, but nothing occurred to elucidate the real nature of the case. Just before death her strength was wholly exhausted, the emaciation was extreme, the abdomen was enlarged to a degree beyond what occurs in women before delivery at the full time, the tumour encroached on the right femoral region, and the right lower extremity was much enlarged as compared with the left.

Even the dissection left some points of the case in obscurity. The external surface of the abdomen presented the wrinkled appearance belonging to women who have born children. The head was not examined. The organs in the thorax were healthy. When the abdomen was opened, the bowels were found pushed very much upwards; its lower part and the whole pelvis were quite filled, there being on the right side a large tumour, and the left being occupied by the distended uterus. The tumour on the right side pushed the peritonæum upwards and forwards, extending in the vertical direction to the kidney. The contents of the tumour were bloody coagula and a dark grumous fluid. While in the attempt to remove it entire, it burst. In its structure there was an appearance of imperfect cells. Portions of the fluid subjected to the microscope showed blood-corpuscles in various conditions. On the right side,—that is, on the same side with the tumour,—the bones, entering into the sacro-iliac synchondrosis, were separated to such an extent as to admit between them the extremity of a finger, the only union preserved between them being by a few connecting bands. The adjacent large blood-vessels were entire and normal. It had been remarked during life that the subcutaneous veins on the right side of the trunk were much developed. The uterus was pushed over to the left side, and, on being opened, was found to contain a fœtus of the sixth month, with the cuticle desquamating. There was no liquor amnii; and, as the nurse some days before the woman's death had reported that her bed had become wet, it was concluded that the membranes had given way at that time.

The husband was present at the *post-mortem* examination, and, on being questioned if his wife had been recently exposed to any violence, he said that, about a month before she began to complain, (that is, nearly three months before her death,) she had been accidentally squeezed so violently by a door being shut upon her, as she was carrying some clothes into a room, that she fainted. This led to a belief that the separation of the bones might be a species of fracture in which the bloody tumour might have originated. But many difficulties interfere with this view of the case. In the short discussion which followed the reading of the paper, Mr. Syme expressed himself decidedly opposed to the idea of the separation of the bones being of the nature of fracture.

Dr. William Gairdner then read an account of a case of sudden death from aneurism of the superior mesenteric artery. The case was that of a female who died suddenly in the street, her body being brought to the Infirmary. On dissection, the chest was found generally sound, the left ventricle being strongly contracted, and the aorta being small in the chest,—as also in the abdomen. In the cavity of the peritonæum clots of blood were found to the amount of two pounds and a half; in the peritonæum, between the pancreas and duodenum, there was a ragged opening; and, on further examination, an aneurism of the superior mesenteric artery was discovered, from which a probe passed into the aperture in the peritonæum. Close to the aneurism, on its right side, lay the biliary ducts. The upper surface of the liver adhered to the diaphragm. The stomach was quite free from disease; but, on the mucous surface of the duodenum, was observed an imperfectly cicatrised ulcer, from which could be squeezed a few drops of blood, manifestly derived from the aneurism.

The body was recognised as that of a female servant, 26 or 27 years of age, who had been twice in the Infirmary within the last two years. In the beginning of 1848 she had been there about a month under the care of Dr. Halliday Douglas, on account of hematemesis, accompanied with pain of the epigastrium and jaundice. A short time before admission she had begun to vomit blood in considerable quantities—generally after meals—and sometimes watery fluid was discharged; and, for some time after she was received into the Infirmary, the vomiting of blood continued. On careful examination, no sign of abdominal disease could be detected beyond some degree of resistance below the situation of the liver, and a defect of the usual resonance in the same region. The case was managed on a simple plan, by a regulated diet and mild treatment, on the idea that the hæmorrhage might depend on ulcer of the stomach. At the end of a month, as the symptoms had subsided, she was allowed to go out. Some time after this she was treated in the surgical quarter of the Infirmary for a weak ulcer of the leg, but her former complaints do not appear to have attracted attention on this occasion.

Dr. Gairdner entered, at some length, on the connexion between the history of the case and the *post-mortem* appearances, and there seemed no reason to doubt that the original hematemesis had depended on the communication of the ulcer in the duodenum with the aneurism, and that the jaundice which had accompanied the vomiting of blood had arisen from the proximity of the biliary ducts to the aneurismal tumour.

An interesting conversation then ensued regarding cases illustrative of the long periods during which patients may sometimes live after hæmorrhage has commenced from an aneurism, and Mr. Dick, Lecturer on Veterinary Medicine, who was present, showed some remarkable preparations proving the frequency in the lower animals of abdominal aneurisms, connected in particular with the existence of the worms termed strongyli, as in the horse and ass.

IRELAND.

[From our Dublin Correspondent.]

The opening of the new Colleges, with their chances of success, has been the chief theme of conversation in Dublin for some time. At the Surgical Society, some highly interesting matters have been brought under discussion, while at the schools, the Professors are trying to console one another as best they may, for the late diversion *not* in their favour in the provinces. Some of the medical favourites at the Vice Regal Lodge have been "starring" it in the south and west; but, on the whole, the medical faculties have come out with considerable *éclât*. Within the walls of the old University nothing very novel presents itself, the ancient mysteries are still unriddled in the dubious vicinity of Park-street, while in the hospitals there is a fair sprinkling of ambitious-looking students, and the old never-ending cases and case-takers. The Belfast College opens on the 20th.

The Surgical Society opened its long looked-for sittings on the 17th ult., with an excellent address from Mr. Ellis,—an *eloge* on the late much-lamented Richard Carmichael, to whom the Profession in Ireland is so deeply indebted, and whose name is so favourably known also in the sister kingdom, as one of the most persevering innovators on the old and barbarous custom of salivation in syphilis. Few men have been so respected, both in and out of the Profession, and perhaps since the time of Sir Patrick Dun, who was President of the College in 1693, not many have been so munificent.

After the address, which was most cordially received, Mr. Banon read a paper on the cure of Popliteal Aneurism by Pressure, and furnished the details of a highly interesting case. (a) Mr. Bellingham spoke of some failures which took place in England, from allowing the apparatus to be interfered with. Mr. Adams, whose experience has been so extensive, recommended the new mode of proceeding in the strongest terms; the general sense of the Society going with the latter speaker. Much stress was laid on proper attention to *keeping up the pressure*—the only thing, indeed, needed to effect the cure.

At a subsequent meeting of this Society, the subject of the adulteration of drugs was brought under notice; and, among other things, a specimen of ordinary *Flor. sulphuris* produced, which was shown to contain 47 per cent. of sulphate of lime! It was mentioned, also, that our ordinary Muriatic acid now contains Arsenic. The sources of these impurities are, of course, quite obvious. We should not be the less on our guard; indeed, practical subjects of this kind are, perhaps, too often neglected for matters of mere theoretic interest. Dr. Bellingham related three cases of a somewhat

(a) We feel pleasure in adding another case to Mr Banon's in our present Number.—Ed. *Medical Times*.

rare injury—rupture of the long head of the Biceps—the subjects of external injury. The appearance of each of the patients was distinct and peculiar; each supported the elbow with the opposite hand, felt total powerlessness of the arm, pain on motion, pain along the biceps, pain on separating the arm from the side. Mr. Key, at the opposite side of the Channel, was, perhaps, the first that told us the reticular tissue between the fibres of this tendon was the part chiefly engaged in these injuries. In the discussion that ensued in the Society, one of the speakers seemed to think that in all such accidents the tendon was diseased, broken down into this kind of mesh-work, not snapped across. We can scarcely conceive a force, indeed, to tear across a tendon. As to the mechanism of the accident, so to speak, the Society did not seem clear. Dr. Jacob appeared to think, that in complete dislocation, the tendon was not put on the stretch at all, but rather the reverse, while Mr. Adams alluded to a variety of the accident—partial dislocation, of course—which he had seen in museums, where rupture had certainly taken place. Both were, perhaps, right. A tearing of the tendon of the subscapularis is, however, more frequent than either. The capsular ligament, of course, shares the same fate, and the case is of some five or six weeks' anxiety to the practitioner. The accident is of interest from the fact of John Hunter and Munroe having suffered it, being quite as vulnerable in another tendon as the hero of antiquity from which it gets its name.

At the Royal Irish Academy a somewhat interesting announcement, as regards the fauna of Ireland has been recently made—namely, the existence at one time of the black bear of Northern Europe in these latitudes, taken in connexion with the Irish elk, so peculiar to this country, and so well known, the discovery is considered one of great moment. Mr. Ball, it is said, has had communication with Professor Owen as to the identity of the bones with those of the animal named, and the able and learned successor of Hunter in England has given an opinion quite in accordance with that of the Academy. The crania were found between seven and eight feet under the surface. The black bear is now met very rarely, even on the Alps; in America, however, it is more common. It is not to be confounded, of course, with the white bear of the Polar circle. The black bear, unlike the brown, is not carnivorous, so that more than ordinary care is necessary to decide the question. At the Academy it seemed settled.

And, talking of crania, perhaps it may be mentioned that a very learned discussion has been going on in Dublin of late on this question—"Who are the Celts?" Dr. Wilde contending he can decide by some crania in his possession, his opponents placing greater confidence in historic records, and the analogy of tongues. At the English side of the water the question is pretty well understood, the old piece of superfluity—putting a candle in the sun—to open it up at all. Perhaps the Colleges would decide it; for they seem in a something of a perplexity to know who their Celtic pupils are to be, the allowance already being a pupil and a quarter to each Professor; some malicious people saying only eight pupils to sixteen lecturers. In Galway very peculiar inducements, too, have been held out to the gentlemen of the Claddagh by Dr. Croker King, who opened the College there, that, whereas in the metropolitan schools, a degree of M.D. costs somewhere about 150*l*., he would let them have it at "tremendous sacrifice," &c., for the sum of 47*l*. 13*s*.! Sir Robert Lane, in Cork, too, who purposes, he says, to walk in the steps of St. Finbar, he that gentleman more or less a follower of Liebig and the alembics of Giessen, proffers similar inducements—nay, more, sixteen scholarships in science, of the value of 30*l*. each, are held out as a bait, and a botanic garden has since been added to complete the arrangements.

The opening lectures have been excellent, more especially that of the indefatigable assistant at the Rotunda, Dr. Doherty, on "Midwifery." After making the Galway folk particularly happy on the erection of their College, and excusing, *selon les regles*, his unaccustomedness, &c., to public speaking, the Lecturer entered on the peculiar subject of his course. A case of questionable pregnancy was supposed, with the paramount necessity of the Practitioner knowing his business, as on it the character, nay, very existence, of his patient depended. A case of neglected hæmorrhage and death of a young mother were enlarged on, with the absolute necessity of men being fitted for this department of Medical practice; the Lecturer very happily illustrating the matter by the old comparison of the table with different-shaped holes, with a plug for each; but, somehow "the round man getting ever and anon into the three-cornered hole." The necessity of general Medical education, including Surgery, Chemistry, Botany, &c., was also placed before his auditory,—Midwifery, of course, in particular, the history of which was traced from Hippocrates and Galen down; the latter, it seems, recommended "version," and the origin of the speculum was traced to Paulus Egineta. The modern French school of Boivin and Duges, Dr. Doherty alluded to in high terms; the Copenhagen Lying-in Hospital, he stated, was the best, perhaps, in Europe; thirty-six women were taught as midwives there every year, and sent into the country at the expense of the Government. In Norway, too, 400 women had been educated, the Storthing finding the funds; and in the Dutchy of Baden, under Naegele, the same obtained.

The recommendation of Professor Doherty for Ireland was, a set of "*Lying in cottages*" in preference to an Hospital, to prevent puerperal contagion and fever.

The stethoscopic labours of young Naegele were alluded to; but our own Evory Kennedy has done, perhaps, as much; the discourse winding up with the honoured labours of Simpson, Montgomery, and Murphy.

The Lecture of Professor Brown on Surgery was also one of no inconsiderable merit. After some general remarks, and others, consisting of a history of Surgery from its more immediate origin in Egypt, the Lecturer alluded to Larrey's account of the surgical basso-relievos at Luxor, curiously enough turning up now again through the labours of Layard. The history of Surgery in Greece was dwelt on. Opium and venæsection, the Lecturer stated, were known as early as Homer; the dark ages—the fourteenth century, when Pitard made the first College—were next passed in review, with sundry other matters.

The Inaugural Lecture on Materia Medica proved also chiefly historical. The use of anesthetics was traced to the 16th century, when a peculiar preparation, (chanvre) possibly Indian hemp, was used by the Chinese for the same purpose we use chloroform. The endless subject of pure Physicians and pure Surgeons was dwelt on at considerable length,—the former manipulating at the dissecting table in kid gloves and lavender water, (it must assuredly be in Connemara,) were rather roughly handled. The "Lady Bountifuls" of the west next came in for a touch of the lecturer's quality, and a flood of hard words let loose on them. The real subject in hand was next glanced at—the poisonings and *ignorance* (?) of English Practitioners. He should have spoken of Jupiter's satellites, rounding some fine periods, and bringing up the peroration. The Colleges are now fairly afloat; the results to Medical literature and Medicine in Ireland, is one of no inconsiderable anxiety. Whether the School in Dublin, which has so long maintained its character, can bear such Government competition, remains to be proved.

The Surgical Society has had another of its highly interesting meetings, and a point mooted by Dr. Kennedy, has created no small degree of discussion,—Whether, in fatty degeneration of the heart, in other words, in weak-acting hearts, we are right in recommending strict quietness and rest, as is usually done, in preference to exercise, the normal condition of this muscle. From a statistical summary of over fifty cases, the speaker was inclined to believe, that in all such cases the valves were healthy; that stillness but increases the disposition to disorganisation; and from the analogy of other muscular structures, we were not perhaps warranted in the ordinary practice. The discussion that ensued was much to the point; the old practical men, it must be confessed, leaned rather heavily on the author; but, for the present, the matter seems anything but decided.

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THE MEDICAL TIMES.

SATURDAY, DECEMBER 22, 1849.

ON the 10th of June, 1847, a member of the Medical Profession, Dr. Richard King, thus addressed the Right Hon. Earl Grey:—"My Lord,—One hundred and twenty-six men (a) are at this moment in imminent danger of perishing from famine—Sir John Franklin's expedition to the North Pole in 1845, as far as we know, has never been heard of from the moment it sailed." Who was Dr. Richard King? from whence proceeded the voice of warning which thus foreshadowed the two years and a half of most painful suspense which have passed since that time? Dr. Richard King, in 1833, volunteered his services to accompany Commander Back, in a land expedition in search of the two Rosses—the uncle and nephew—who had made a voyage in search of a North-west passage, and for the safety of whom apprehensions were entertained. Of the energy of character, boldness and prudence displayed by Dr. King, there has never been, so far as we know, but one, and that a most favourable, opinion; further, there are many like ourselves, who believe that quite as much of the guidance, safety, and general welfare of that expedition was due to its Surgeon as to its Commander. Dr. King is thus spoken of by Sir John Barrow, when alluding to the researches in natural history as some of the fruits of the expedition:—"It is impossible not to bestow the highest degree of praise on Mr. King, who, with great exertion and diligence in collecting, and careful attention in preserving them (the collected objects), must have undergone much labour and constant anxiety." Upon the same gentleman does Sir John Richardson pass the following encomium:—"These specimens were all carefully prepared by Mr. Richard King, surgeon to the expedition, who deserves the thanks of zoologists for devoting so much time and labour to the promotion of science." Sir John Ross thus honourably alludes to one of those who went in search of him:—"I must, in the first place, do justice to the humane and praiseworthy intentions of Dr. King, and, in the grateful remembrance of his noble conduct in volunteering, with the gallant Back, to effect my rescue, the proposition which he has now made is only what I might have expected. Were the expedition which he proposes necessary, there is certainly no person in every re-

(a) According to Sir John Barrow 138 men—Erebus 70; Terror 68.

spect so eminently qualified to conduct that service as this enterprising individual."

A Contemporary (the *Athenæum*) thus writes also, "Dr. King has for years been urging through our columns and elsewhere geographical views, which the progress of discovery has now confirmed, as well as practical opinions on the best means by which Arctic discovery was to be pursued, that have been singularly justified by the series of events. It is incumbent on us now to direct attention to the confirmation which his views have already received, and the right which that circumstance unquestionably gives him to a hearing, whenever the measures best adapted for the recovery of Sir John Franklin and his band of adventurers have to be discussed."

Dr. King, then, *appears* to have been a person qualified to have commanded the attention of the Admiralty, and to ask the right to be listened to by Arctic geographers. It might have been that he would have done so, and have been attended to, had not his name at the same time been associated with—to some persons—most disagreeable and troublesome recollections. According to the *Athenæum*, "we believe it is a fact, that, on the return of the expedition in search of Sir J. Ross, Dr. King differed materially from Captain Back in regard to the survey which that gallant officer had made. He maintained that Cape Hay was not, as Captain Back had drawn it, the northern extreme of the western boundary of the great Fish River Estuary—that the Polar Sea to the north of Lake Garry formed a great bay, and that North Somerset was a peninsula. All these opinions have now been established as truths. The verification of these important features entitles Dr. King, as we have said, to a high position as a scientific geographer." [No. 1046.] Besides these things, which have placed Dr. King in the peculiar position in which he stands with the Admiralty, &c., *unfortunately* his last effort with regard to the expedition in the Terror, under Sir G. Back, closed with these words—"That those who were sanguine as to the success of that enterprise would be grievously mistaken; and should that insane portion of the instructions—the crossing the isthmus dividing the waters of Wager Bay from Regent Inlet—be attempted, the most disastrous results might be expected." How far Dr. King was correct, the Government had sad proof.

Unfortunate Dr. King! Thy rewards have followed too surely thy foresight. As you yourself say, your "services in search of Sir John Ross not having been even acknowledged by the Colonial or Admiralty Board," and that you "have pleaded nine years in vain." Is it not true, too, that your Communication on the subject of a North-west Passage, addressed to the Geographical Society in 1836, was neither acknowledged to yourself nor to its communicator, nor was it read before that Society, nor published in its Journal, though communications on the same subject, and at the same time, were both read and published from Ross, Franklin, Barrow, Richardson, and Beaufort? (*Vide Athen.*, 1016). Are we not also right in affirming, that when "the Admiralty consulted almost every officer in their service and within their reach, who was employed in the Northern Expeditions," and which, we are told, it did "on the highest official authority," you, Dr. King, were neglected and passed over? Are we far wrong in asserting, that there was something peculiar in the manner in which the Board of Admiralty met your offer to administer medical relief to the suffering crew of the steamer Eclair, and in the suppression of your name in the return made to the House of Commons, on the motion of Admiral Dundas, and ordered to be printed, of officers and men who volunteered to serve on that occasion? But, we forget—our readers by this time will have had enough information as to the nature of the source from whence sprung the warning given to the Admiralty two years and a half ago,—a source not unyielding of its recommendations, pregnant with truthful prophecy, even more than two years before that period; for we were told by Dr. King in 1847, that "it is greatly to be regretted that Lord Stanley did not entertain the plan which I proposed for acting by land in concert with Sir John Franklin's expedition by sea. It is scarcely possible that the two services could have missed each other; therefore, there would not have been that anxiety for the fate of Sir John Franklin which *now* exists, nor the necessity, which is *now* paramount, for the most active and energetic exertions for his rescue." The plan alluded to was suggested by Dr. King in February, 1845. No sooner had Dr. King, in June 1847, asserted the probable danger of the Erebus and Terror, and recommended immediate efforts for their succour, than we were informed, in a dogmatic *bulletin* dated from Somerset-house, and said to be constituted of "facts which may be relied on as having the highest official authority;" that the not having heard from Sir John was to be looked upon more as an earnest of success than of failure; that there was no cause for flying to his rescue; in fact, that there did not exist then more reason for apprehension than there was when the expedition sailed; finally, that it was clear that there were no grounds whatever for the assertion, that 126 men were at that moment in danger of perishing from starvation, seeing that Sir John Franklin was provisioned for the summer of 1848. The public became apprised, at the same time, that it would not be before the spring of 1848 that a company, headed by Sir John Richardson, would proceed from the Mackenzie River, in the event of a doubt still hanging over the fate of the Arctic voyagers.

Assuming that Sir John Franklin was provisioned for the summer of 1818, no doubt can exist but that Dr. King's assertion, that the expedition was in danger of *starving* in June 1847, was wrong. But this has little to do after all, with the truth of the spirit contained in all of Dr. King's warnings—viz., that of imminent danger and probable failure in all respects of Franklin's expedition — warnings which were asserted to have not had a shadow of truth in them, even though they were couched in such terms as the following:—"If Sir John Franklin has attempted to make a short cut westward, instead of sailing southward along the western land of North Somerset, and wrecked himself on Banks and Wollostan Land, he has run headlong into that danger of which I expressly warned him." (1847)

Two years and a half have now passed since Dr. King's warning, and no one knows whether the crews of the Erebus and Terror have been starved, or wrecked, or what has become of them. To the truth of their danger, whatever that may be or have been, Dr. King was then a witness, as he was to the fact of the geographical mistakes and useless purposes of preceding Arctic sea expeditions. It was stated (*Athenæum*, Nov. 24, 1849), that the Council of the Royal Society had memorialised the Admiralty as to the expediency of summoning all the Arctic naval officers to its councils, with the view of learning from them the best course to be pursued in resuming the interrupted search for Sir John Franklin. May *we* urge, not *now* the *justice*, but the *expediency*, of its not having forgotten Dr. King amongst the number of those consulted. We shall probably again recur to this subject.

DR. R. JAMIESON'S INTRODUCTORY LECTURE AT ABERDEEN.

A FRIEND kindly forwarded to us a copy of an Aberdeen newspaper, and in it we read a Lecture by Dr. R. Jamieson, introductory to the Medical Courses delivered in King's College, Aberdeen. The Lecture contains no small share of good sense, well expressed, and, in general, excellently adapted for the information of the student at the outset of his studies. The Lecturer's mode of handling his subject brings forth a great deal of illustrative imagery, so to speak, and his style is highly figurative. As these qualities are well sustained, we shall not venture to call them defects; nay, we are rather disposed to admit,—though they rather exceed in amount what good taste dictates, and certainly would not have commanded the approbation of Dr. Gerard, the Aberdeen authority on Taste in the last century,—that they contribute to render the Lecture, which is on a somewhat dry subject, more attractive to the young student. We can imagine, however, that Dr. Gerard's work is not read in King's College, to which Dr. Jamieson belongs, as we find, on examining our Biographical Dictionary, that the author of the Essay on Taste was a Professor of Marischal College. And this touches the point in Dr. Jamieson's Lecture which we think most open to criticism, namely, a fierce attack on the rival Institution of Marischal College, mixed up with like invectives against the senate of the University of Edinburgh, on account of some real or supposed injustice, committed jointly by the two bodies against Dr. Jamieson's "Alma Mater," King's College. It may be, that we do not understand the precise ground of offence; but we are quite sure that Dr. Jamieson has violated all propriety, by introducing into a discourse, expressly designed to exhibit to Tyro's in the Profession the true character of medical education, and a just model of what the Student's after life should be; in short, into a Discourse which should have breathed throughout the very spirit of Medical Ethics—a series of invectives, prompted by that personal jealousy which, though now fortunately lessening every day, has so long proved the bane of the Medical Profession.

Most of the readers of the *Medical Times* probably require to be reminded that, besides Aberdeen, the chief town of the county of that name, there is, at a short distance, the remnant of an ancient city, commonly called Old Aberdeen, which, though hardly more than a village in size, is the seat of King's College and University, founded at the end of the fifteenth century; and that in the modern city of Aberdeen, sometimes called New Aberdeen, though that name appears to date nearly from the period when the University was founded in the old city, there is another seminary, Marischal College and University, founded about a century later. Marischal College possesses four Medical chairs; namely, those of Medicine, of Chemistry, of Anatomy, and of Surgery. King's College, in the old city, has only one Medical chair, namely that of Chemistry and Medicine conjoined. But both Universities eke out their curriculum of Medical education by lectureships established by the senate of each. Dr. Jamieson is Lecturer on Medical Jurisprudence in King's College; and, as far as we can judge, the source of his indignation in the passages of the lecture referred to is, that the University of Edinburgh admits attendance on the four Professors of Marischal College, two in each of two years, as a part of its curriculum for the degree of Doctor; while it acknowledges no part of the Medical education at King's College, because the attendance on the one Professor there does not constitute an "Annus medicus." "Hinc illæ lacrymæ!" The University of Edinburgh, we presume, acts on a general rule. It must refuse the courses given by the lecturers in Marischal College as well as in King's College, as it refuses the lectures given by those who are not University Professors all over the world. Yet Dr. Jamieson, addressing inexperienced students, describes the conduct of the Senate of the University of Edinburgh as "selfish, impertinent, illiberal, and unjust," and all the while so colours his statement, as if this kind of conduct were directed in particular against King's College, and in a special manner to support the rival Marischal College, which, in his indignation, he calls a falling school, refusing to it the name of a University, terming it a "Gymnasium;" in short, teaching "the young idea how to shoot" in the most approved vocabulary of spiteful declamation. Our feeling, in regard to this part of Dr. Jamieson's lecture, is more akin to pity than to anger, to see a man of talents and judgment, on an occasion when he should have been particularly on his guard against any sentiment having the remotest appearance of personal pique, giving way to passions which blind his reason, and lead him to conclusions so perverse and alien to the plain facts of the case, that the youngest student who heard him intelligently must have laughed in his sleeve to see the headlong fury of the late moralist, his teacher, as soon as he encountered a topic which touched his self-love and class-interest.

THE BOARD OF HEALTH AND THE POOR-LAW MEDICAL OFFICERS.

Since the formation of the new Metropolitan Commission of Sewers, and the subsidence of the Cholera, it is difficult to conceive what duties can devolve upon the General Board of Health. We believe that the Board itself is rather puzzled to know how to occupy its time and to furnish a decent excuse for its further continuance. Mr. Chadwick fidgets for a new grievance, and looks dismally unhappy in his morocco chair, because he is not surrounded with piles of reports, experimental suggestions, and statistical tables. Dr. Southwood Smith wanders listlessly through the forsaken halls of Gwydyr House, meditates a new crusade against filth, and practises elocution with the attentive walls for an audience, and for plaudits the echoes of his own periods. As for the titled members of the Board, the Earl of Carlisle cons over the dictionary of rhyming terminations, and writes sonnets in imitation of Petrarch; or elaborates a sentimental address to dignify the inauguration of a wash-house or a model prison. We are sorry to see great talents "waste their sweetness on the desert air;" and we think that we may save these official dignitaries the horrors of a painful dissolution, by suggesting to them the expediency of taking under their especial direction the Union Medical Practice of this country.

The time is now past for exhibiting the evils arising out of the administration of medical relief and general relief by one and the same authority; for it is admitted on all hands, that satisfaction can never be given to the poor, the rate-payers, or to the medical officers, until the administration of medical relief be separated from that of general relief, and the medical officers are rendered independent of Boards of Guardians, and are made responsible to an intelligent, medically-instructed, governing Board. The jealousies and heart-burnings among medical men arising out of competition for office under the present system; the supercilious department of Local Boards, and their unfeeling promptitude to take advantage of professional rivalries, in order to lower the standard of payment, without reference to the competency of individual claimants, or the preferences of the poor recipients of their ungracious charity—the complaints, both deep and loud, of the labouring class themselves, to the effect, that they are tortured by a cruel system, which the humanities of medical science are not permitted to meliorate; and the frequent legal suits between medical men and the Boards of Guardians respecting disputed payments, on which occasions the Boards rarely scruple to plead their own neglect of duty, as in Mr. Tatham's case, to wrong their medical officer;—the undignified quarrels between the Central and the Local Boards in their contest for supremacy and independence, and the unscrupulous compromises, by which they consent to sacrifice their Medical officer as an offering to conciliate a temporary pacification,—all these are notorious evils inherent in the system, and are both irremovable and immitigable whilst the anomalies of the present complicated scheme of administration are in force, and they cry aloud to the Government and the Legislature for an instant and entire change.

The instrument of such a change exists in the General Board of Health, always premising that this Board be composed of a majority of Medical men; for otherwise it is impossible that any satisfaction can be given to the Profession. It is not to be presumed, that in the event of an alteration of system, the Government would introduce a new Board of Admiralty into the Medical Profession. The Union Surgeons have, for a long time, memorialised to be placed under the Government of a Medical Board, because their peculiar duties cannot be understood or appreciated by a mere layman, and cases of alleged malpractice can be decided only by a duly qualified Medical referee. There can be now no practical difficulty to the gratification of their repeatedly expressed wishes, for the present Board of Health, once reconstituted, being subject in all its operations to the laws of hygiene and medical science, would really form the natural head of the service. The subordinate objections arising out of the mode and source of payment of the Medical Officers, could be easily got rid of by a Government effectually disposed to make an organic change in this department; and these objections are now suggested, in our opinion, merely as excuses for delay, and to drive off the moment of action and of responsibility. We do not think that it is a matter of much consequence, whether the Medical Officer of a Union be paid by means of a per-centage on the rates, or from the Consolidated Fund, provided that there be a clearly defined scale of remuneration established. There can be no doubt that the latter is the most essential point for which the Union Surgeons should contend, since no system can work beneficially for them, of which this does not constitute the corner-stone. The mere shifting of allegiance from the Board of Guardians to the Poor-law Commission, and from the Poor-law Commission to the Board of Health, and from the Board of Health, perhaps, to some other Governmental machinery, would be but an idle trifling with the wishes and interests of the Medical Officers; but if, simultaneously with such a change of jurisdiction, powers were given by Act of Parliament to enforce a higher standard of payment for medical relief, this branch of the Profession would receive substantial and permanent benefit.

When we consider that during the season of panic and peril, when thousands were struggling for life under cholera, and tens of thousands were trembling with dread of an attack, the Board of Health usurped an uncontrolled jurisdiction over the Poor-law staff; and, as we may be assured, that, in all cases of similar emergency, it will exert the same paramount authority, we cannot but admit the propriety of investing in this Board the sole jurisdiction over the Medical Staff in respect to ordinary as well as extraordinary duties; and we are persuaded that such an alteration effected on the conditions we have expounded, would be a signal benefit to the Medical Officers, a blessing to the poor, and an enhancement of the dignity and independence of the entire Profession.

THE METROPOLITAN SEWERS COMMISSION.

The proceedings of the Commissioners who have undertaken the Herculean task of ridding

the Metropolis of its noxious sewage matter have lately been diversified by a little episode, involving a question of some importance. It appears that one Mr. Hale, a Civil Engineer, was appointed by the members of the Commission to assist the "Trial Works Committee," in conducting a series of experiments on the discharge of water through pipes, and that an account of some of these experiments appeared in the *Mechanics' Magazine*, in an Article to which the signature of Mr. Hale was appended. At a General Court of Commissioners, held in the course of last week, Lord Ebrington, the Chairman, charged Mr. Hale with having, by the publication of this article, committed "a somewhat singular breach of discipline," evincing "an ignorance of the propriety of behaviour," and not only causing embarrassment to the Court, but "tending to embarrass the public." Now, we are not concerned to give an opinion, whether Mr. Hale was or was not guilty of a "breach of confidence" and "gross irregularity." He has been judged, condemned, and punished by the Court of Commissioners, and it is not our business to dispute the justice of the sentence of suspension pronounced upon him. Neither do we care to inquire how the publication of the result of the experiments could be embarrassing to the Commissioners. We only wish to ascertain whether there is any real ground for Lord Ebrington's fear that it should embarrass the public.

The reason assigned by His Lordship for such a supposition is, that the article in question "purported to impart as authoritative information that which had not been decided on by scientific men." Now, if we rightly apprehend the meaning of their words, we think the reason insufficient. If a series of experiments in connexion with a subject of public importance be conducted at the public expense by a person of competent ability, we do not see why the public should not see a plain narrative of the experiments and their results, even before they have been "decided on" by other "scientific men." It is notorious that scientific men differ very widely on questions which have not been settled by actual experiment, and we consider information derived from practice to be preferable to an opinionn grounded on theory. A deceased lawyer, of great eminence, who had asked the opinion of one of his pupils on a question of law arising out of a given statement of facts, is said to have interrupted the pupil's, "Why, Sir, upon principle"—with the words, "D— your principle: have you got a case?" We confess we do not clearly see how the theories of even scientific men can countervail a case made out by actual experiment; but, if their opinion be requisite, how can it be better obtained than by laying the result of the experiments before the world in the columns of the public journals?

We think that Lord Ebrington is inclined to make the proceedings of the Court over which he presides too mysterious. The day has gone by for keeping the public in the dark as to matters of such importance as the sewage question. If our memory does not deceive us, the facetious H. B. once depicted a Lord Ebrington as Mrs. Partington trying to keep out the Atlantic with a mop. We do not wish to see the caricature repeated. The general history of Commissions has been, that after the appointment of the Commissioners the public has known nothing about their proceedings. It is true that, in the course of years, a tremendous Blue-book makes its appearance; but few or none attempt to read it, and the chief recommendation of its thickness is, that waste paper is sold by weight. The proceedings of all present and future Commissions will, like the sewers, be all the better for a thorough ventilation; and we recommend the concluding sentence of Sir J. Burgoyne's observations to the notice of his colleagues, as admitting the advantage of "establishing a free vent to the open air."

THE DEPUTATION TO THE ROYAL COLLEGE OF SURGEONS.

THE Deputation from the Conference held at the Hanover-square Rooms, had an interview, on Wednesday last, with the President and Vice-Presidents of the Royal College of Surgeons, for the purpose of ascertaining the extent of the alterations proposed to be made in the Charter of the College, and to lay before the Council certain propositions containing the main principles upon which those members of the College who desire to open the College of Surgeons to the whole body of Surgeons, wish to see the College re-constituted. The Deputation were received with great courtesy by the President and Vice-Presidents of the College, who listened with much attention to the representations made by the members of the Conference.

Mr. Clifton, the Vice-President of the National Institute, introduced the Deputation, and explained, that the Council of the National Institute had convened the Conference, in order to secure unity of sentiment and action, and to pave the way for a definitive and satisfactory settlement of the medical question. He stated, that there were many Members of the College who were opposed to the establishment of a new College of General Practitioners, on the ground, that the College of Surgeons ought to be converted into such an Institution, and might be made such if suitable efforts were directed to that end. To ascertain the disposition of the Council of the College in this respect, and to give the gentlemen who held those opinions an opportunity of expressing them to the Officers of the College, the National Institute had convened the Conference, and sought for the present interview; and he hoped that there would be, on all sides, a candid interchange of opinions upon this important matter.

A series of propositions was then read by Mr. Bottomly. These propositions were stated by that gentleman to imbody the views of those Members of the College who were also Members of the Society of Associated Surgeons. They contemplated, generally, the establishment of two grades in the College; the one that of Members under ten years' standing, and the other that of Fellows above that status, together with an order of Fellows by examination. It was proposed, that the Members should elect, by means of voting papers, the Fellows of the College, and the Fellows the Council, whilst the Council should have the privilege of nominating the Examiners.

Other propositions provided for the Institution of examinations in Medicine, Midwifery, and Pharmacy, and advised that Members of the College practising medicine and midwifery should be entitled to a seat on the Council; but, that the majority of the Council should be what is denominated, "pure surgeons."

The President, having received the propositions, stated, that he was unable to express an opinion upon them, as the Council had not yet seen them, but that he would submit them to the Council, and return a reply in conformity with their decision.

The resolution of the Council of the College, by which they had agreed to apply to the Crown for an alteration of the Charter, upon certain principles specified in the resolution, and which are the same as those referred to in our leading article of last week, was read to the Deputation. After a short discussion upon the various topics brought under review, the Deputation withdrew.

PUBLIC HYGIENE.

DRAINAGE: AS IT AFFECTS THE HEALTH, WEALTH, AND MORALITY OF SOCIETY.

No. II.

Cleanliness of Person and Abode enforced.—Ignorance and Indifference of Builders, Landlords, and Tenants.—Mechanical Exposition of the Main Features of the Old and Present System of Drainage.—Its Evils affecting all Classes of the Community.

A certain tyrant wishing to justify his cruelty to his slaves, declared that they were not to be regarded in a different light from the lower animals, —in proof of which he tried the wicked and invidious experiment of ordering a slave to lie chained to a dog kennel, and made to lead the life of a dog for a month. "Now," said he, "there is the man, and there is the dog, and the lengths of their chains are equal. Which is the most revolting to the senses?"

The dog was in his natural state; but the man was a hideous object, dying of filth and fever.

From this act of a wretch, who thus outraged the self-evident ordinances, both of God and man, it is possible, nevertheless, to extract a most important lesson. Cleanliness of person and of abode, by every care and consideration that belong to a decent and sensible mind, are shown to be a pre-eminent duty in man, from the repulsive, if not fatal consequences, which attach to their disregard. "A cottage with a cess-pool at the back, or beneath the floor,—a mass of stagnant household slush before the door,—a ditch, or open drain, running close beneath the windows,—how many hundreds of such abodes are, at this very time, to be found in almost every city, town, and village throughout England! In how small a degree do these cottages and hovels differ from the dog-kennel just described,—a kennel to which such countless numbers of men are, at the present time, chained by poverty, cruelty, and ignorance, with all their consequences of filth and vice, disease and death,—carrying with them their natural vengeance upon society in pestilence and devastation.

Without considering the ultimate injury to health, one would have thought, abstractedly speaking, that the very fact of a constant appeal to the senses, in the shape of annoyance or disgust, would have induced attention to the question

house-drainage at a very early period of civilization. But all experience has, unfortunately, shown, that this has by no means been the case. Whether, by habit, the sense has become blunted, or that the annoyance has been supposed a thing beyond remedy, and one of the necessary evils of life which everybody must endure, nothing is more certain than that a marvellous insensibility, or at least an indifference, has characterised all classes in this respect, not excepting the majority of the highest, as we sufficiently displayed in our Paper of Dec. 1. If tenants have been thus indifferent, it is no wonder that landlords and builders have been slow to learn.

Since tenants, knowing no better, have been in the habit, from time immemorial, of putting up with almost any house-nuisance that might be inflicted upon them, as though they were "born to it," a system of drainage of the worst kind, for the best class of houses, has been regularly adopted; while, by no very finely graduated scale of descent to houses of low rent, this worst system arrived at an evasion of drainage of any kind whatever; an open gutter conducting everything to a cesspool.

The old, which is, in almost all cases, the *present* system, may be thus briefly described:—

Materials and Structure.—The materials for the construction of house-drains are brick, usually of the commonest kind, (being out of sight); they are generally permeable, and laid together at the bottom without cement or mortar. Hence they are soon soaked through, and become filth-filters, penetrating and saturating the soil beneath them, thus generating their own decay, while they continually cause foul exhalations which "nobody can account for,"—find their way into cellars, to the abomination of the "coals" and the horror of the "wine," or make their insidious way into the well of the pump, to the profit of the plumber, whose efforts to cure the stench of the water are invariably baffled by his total ignorance of the cause.

Form.—The house-drains are always built in circles, octagons, or squares. Of the first, which are far better than the others, (though by no means the best forms for house drains,) we will merely say, at present, that they are far less numerous than the others. The objections to the octagon and the square are, on account of the angles they present for accumulations of all kinds, independent of the obvious fact, that their form is very unfavourable to the free and regular flow of the sewage. Hence they have a constant tendency to be partially choked up, and often they are entirely so; either circumstance causing very great annoyance and inconvenience, besides the expense attending the digging down to, and breaking into the drain for cleansing and repair, after vain attempts to effect the former by flushing.

Dimensions.—Our dimensions of house-drains are all on a false principle. They are generally too large by half, or two-thirds, often by three fourths; not unfrequently, they are five times beyond the proper dimensions. The consequence of this is, the regular accumulation of all manner of sediment, deposits, and obstructions, which the largest amount of water that occasionally flows through the drain is quite unequal to displace and carry onwards, because of the large surface over which its flow is distributed.

Construction.—House-drains are commonly built without a due calculation for their decline and fall; very often, indeed, they run upon a dead level, (so that the flow has to wait for rain or other flush of water;) and, sometimes, they absolutely incline the wrong way, and the sewage, met and driven back by the surface water, accumulates in a huge cess pool, which continues to swell in its pestilent bed till some day there comes a great ingress of storm-water, and the monster-nuisance rises of itself, and seeks its own relief, to the temporary disgust and ultimate joy of the innocent tenant, who had never thought of helping it to effect its escape.

In the construction of branch-drains there is also the common evil of joining them with main, or larger drains, at right angles,—a gross engineering blunder, as this must encourage all sorts of deposits, accumulations, and impediments.

Traps.—The traps usually employed in houses are the bell-traps. These are, *of course*, (we were about to say,) the worst sort of traps. They are always too small, so that the water they hold soon becomes impregnated with the bad odour it is meant to govern, making the remedy the same thing as the disease. Besides this, they are too easily displaced.

Cesspools.—But not only are the drains built of the worst materials, and constructed in the worst way, but very often the houses themselves are built so as to favour this evil to the utmost, if not even to prevent all chance of improvement. In localities that lie low, the houses often have the kitchen or basement floor at a lower level than the main sewer, as though the intelligent builder had intended the main sewer to have its outfall in these new houses, and make a series of cesspools of all the kitchens. Other houses (we do not speak of the poorest class) have no main sewers near them into which their drains can be carried; so that, if the tenant had a "bright thought" of getting rid of his pestilent accumulations, and if even his landlord were a man who could see some sense, at least in keeping down and moderating the aspirations of a cesspool, there is still no hope for him,—the enjoyment of drainage into the common sewer, and the blessing of a sweet house, are for ever denied him.

Of the prevalence of cesspools, we may simply say, in the most general terms, that not only has the practice of having a cesspool been common to every house of every description, from the lowest up to the highest, but the consideration and perception of the importance to health of getting rid of them, has only been enforced upon the public mind within this last year or two, at the utmost; and even now the builders, landlords, and the tenants themselves, are slow to awake and believe in the advantages of a total abolition of these sinks for the generation of fever.

If pump-wells, and wells of all kinds in contiguity with the common sort of brick-drains and sewers, are frequently tainted by the saturation of the intervening earth with the sewage, how much worse must this be in cases where a cesspool, or a series of them, lie within a few yards of the brick-work of the wells?

Independent of the constant nuisance and danger to health and life in the presence of these cesspools, the expense they entail (without reckoning the apothecary's and undertaker's bills) is very great, in all houses where it is considered wise to have them occasionally emptied.

And this question of emptying and cleansing out of filthy sinks and cesspools brings us to the dwellings of the working classes and the poor, who live in over-crowded courts, and lanes, and alleys, and cellars,—whose degradation, sufferings, and death, are out of sight and unknown. With them there is no such thing as drainage,—that is, no under ground or covered drainage. Every refuse of animal life, and of every other kind, is thrown into the cesspool or into the gutter which runs beneath their windows, the effluvia of which is the only air they breathe. The running gutter and the stagnant pools may be seen, and these are now and then cleared away by necessity, by parish authority, or by the blessed advent of a storm of rain. But the cesspool is never emptied, or rarely, if they can avoid it. They dread the expense. When full, it is covered over with boards, earth, rubbish, in the best way they can, and another is dug as near it as possible. As many as seven cesspools have been found in this way, lying festering in darkness, and in horrible proximity. While such abominations are fermenting within half a yard beneath their feet, and beneath their beds, it is no wonder that cholera and typhus break out in those localities where so many thousands of our fellow-creatures lead their miserable lives, unable to help themselves, and eventually becoming indifferent, vicious, and despairing.

Let us look to it in time. The dreadful warnings of the last visitation of cholera, which spared no favoured class, are fresh in the memories of all, so that we may profit by them if we will. That we should do so, is obvious for every reason. Besides our duty, as members of a Christian community, let us not be blind to the fact, that the misery and vice we permit to be generated by the filth of the poorest and most helpless, avenge themselves upon us in their *consequences*, which expand and ramify themselves throughout all classes of society.

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

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Dr. BURROWS in the chair.

ON THE IDENTITY OR NON-IDENTITY OF THE SPECIFIC CAUSES OF TYPHOID FEVER, TYPHUS FEVER, AND RELAPSING FEVER.

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(Communicated by Dr. SHARPEY.)

The author, at the commencement of his paper, remarks, that for many years small pox, measles, and scarlet fever were confounded under one name, and that it was only after the publication of Dr. Withering's essay, that measles and scarlet fever were regarded as distinct affections, *i. e.*, distinct as to their course, their symptoms, their lesions, and their causes. Typhus fever, typhoid fever, and relapsing fever, are yet, by many, looked on but as varieties of one disease; but the writings of Dr. Gerhard, M. Valleix, and Dr. A. P. Stewart, have rendered it highly probable that typhoid fever and typhus fever are absolutely distinct from each other—two species of disease, and not varieties of one affection. In the *Monthly Journal of Medicine* of the present year, the author has analysed the course, symptoms, and lesions of structure found after death in a certain number of cases of fever, and this analysis, he thinks, proves that, as regards their course, symptoms, and lesions, no two diseases can be more distinct than typhus and typhoid fever. But small-pox, measles, and scarlet fever differ also in respect to their exciting cause, which, in the case of each of these diseases, is specific. In like manner typhoid fever, typhus fever, and relapsing fever must require for their production the application of distinct specific causes if they be distinct diseases. To inquire whether the specific cause of each of these diseases is distinct, or whether the cause of all these is the same, is the author's object in the present paper. He first describes the peculiarities of the course and symptoms of relapsing fever, and of the skin eruption of typhoid fever, and of that of typhus fever, on which the diagnosis of these diseases rests. He then gives three tables, showing all the instances in which two or more cases of fever were admitted from one house into the London Fever Hospital in the years 1847, 1848, and 1849; the age, sex, and degree of intimacy of the individuals, as well as the nature of the disease under which they laboured;

and for the years 1848 and 1849, the number of all cases of fever admitted into the Fever Hospital during the separate months, with the rash of typhoid fever and that of typhus fever respectively. The results exhibited in these tables are—1st. That in 1847 there were five instances of the admission of two or more cases of typhus fever from the same house, two instances of the admission of two cases of typhoid fever from the same house, and five instances of the admission of two cases of relapsing fever from the same house, and not a single instance of cases of the three diseases, or even of two of them, coming from the same locality. 2nd. That in 1848 two or more cases of typhus fever were admitted from each of thirty-three houses; and two cases of typhoid fever from each of four houses; while there was only one instance of a case of typhus and one of typhoid fever being admitted from one house; and in this exceptional instance there is reason to believe the patients received their diseases from different sources. 3rd. That in 1849, two or more cases of typhus fever were admitted from each of eighteen separate localities; and two or more cases of typhoid fever from each of four localities; while in not a single instance was a case of typhoid fever and a case of typhus fever admitted from the same house. 4th. That in 1847, the relapsing fever, typhoid fever, and typhus fever, and in 1848 and 1849, the typhus and typhoid fevers, prevailed simultaneously in the metropolis; nevertheless, that the cases of these several diseases came to the hospital from distinct localities. In 1848, there were received into the fever hospital 118 cases of fever with the rash of typhoid fever, and 390 with the rash of typhus fever; in 1849, 118 with the rash of typhoid fever, and 143 with the rash of typhus fever. As, therefore, about one-fourth of all the cases of fever admitted in 1848, and nearly half of those admitted in 1849, were cases of typhoid fever, the author argues, that in the numerous instances in which two or more cases were admitted from one locality, cases of typhoid fever ought to have been mingled indifferently with cases of typhus fever, in about their proportion in the two years, if the cause of the two diseases were identical; while, as has been shown, from all the localities which yielded cases of typhus, there came but one case of typhoid fever. He remarks, moreover, that an increase of the epidemic prevalence of one of these kinds of fevers had no influence in increasing or diminishing the absolute number of cases of the other kind of fever; that no transition-cases were observed, marking the passage of one epidemic constitution into another; that the rash of typhoid fever and that of typhus fever were not modified in their characters by variations in the prevalence of other kinds of fever; and that the absence or presence of lesion of Peyer's patches and the mesenteric glands always corresponded with the symptoms of the particular cases during life, and did not depend on the epidemic constitution. The author then adduces some particular instances, in which a succession of cases, coming from the same locality, or apparently arising from the same cause, all presented the same characters. And in conclusion, he remarks, that the facts contained in this paper appear to him to prove incontestably, that the specific causes of typhus and typhoid fevers are absolutely different from each other; and to render it in the highest degree probable, that the specific cause of relapsing fever is different from that of either of the two former.

Very beautiful and accurate wax models of the eruptions in the two diseases were exhibited; the work of Mr. Treson, modeller to University College, from casts taken by Dr. Jenner, from patients labouring under typhus and typhoid fevers.

Dr. Barclay inquired of Dr. Jenner, whether he regarded all cases of fever, in which there was not any eruption, as instances of relapsing fever; and further, whether cases of continued fever, without an eruption, were or were not liable to relapse?

Dr. Jenner replied in the affirmative, relative to the occurrence of continued fever without eruption. About one-fourth of the cases under fifteen years of age were unattended with spots; and also 3 out of 21 from that age to the 22nd; after that age the eruption showed itself in all cases. There was not any eruption in one-fourth of Louis' cases.

Dr. Stewart could not but feel gratified, that the views he had ventured to lay before the medical world nine years ago on the subject which this evening occupied the attention of the Society, had been so fully borne out by the interesting researches of Dr. Jenner. He felt assured, when he published those views, that time and observation would thoroughly establish the fact;—for it was a *fact*, and not a theory,—that the eruptions of typhus and typhoid fevers were essentially and invariably distinct, and never passed the one into the other. One point to which he had directed attention in the paper alluded to, and which he thought had not yet been sufficiently investigated, was the frequent occurrence of true relapses in typhoid fever. By this, he meant that, not unfrequently, after the disease seemed to have run its course, and convalescence was almost established, a new attack was ushered in with fresh rigors, followed by febrile excitement, fresh rose-coloured exanthem on the skin, a repetition of all the previous symptoms, and, as might be proved by dissection in the event of death, which sometimes takes place after a second and even a third attack, with fresh intestinal lesion, and the development, amid the cicatrices of former ulcers, of new, highly swollen and elevated glands, both aggregated and solitary. Such a phenomenon as this was never met with in typhus. There might be sequelæ in typhus, but never true relapse. There was another point of great importance, of which he was lately reminded by his friend Dr. Gueneau de Mussy. The common answer of those who held the identity of the two diseases to those who showed them the intestines in typhus uniformly free from ulceration, and even from anything that could be called disease, was, that the malady had run too rapid a course for the characteristic appearances to be developed. The fact being, that the peculiar lesion of typhoid fever attained its maximum of development about the third or fourth day, from which time the process of disintegration seems to commence. The more rapid, therefore, the course of the disease, the more fully developed ought the glands to be. The inquiries instituted by Dr. Jenner, and detailed in his paper, regarding the localities from which the cases came, were certainly of deep interest; and he (Dr. Stewart) apprehended, that the most important question now demanding investigation, and the decision of which would go far to settle the controversy, was, whether an attack of the one disease generally protected those who had had it from the other, or whether, on the contrary, there were well authenticated cases of both fevers having attacked the same individuals. It was not strictly correct to affirm, that one attack of exanthematic typhus uniformly protected against another, for there was a considerable number of instances to the contrary. A very noted one, he believed, was Dr. Christison, who had had three or four attacks of true typhus, and was now obliged to refuse attendance on cases of that disease, as each succeeding attack was more severe than the preceding.

Dr. Barclay was not satisfied with the answer he had received respecting the occurrence of fever without spots. His own experience showed that that state of the skin was very common in fever, and the appearance of an eruption in fever was rare. Out of 111 cases that had occurred during one year, at St. George's Hospital, there were only 59 of all kinds of eruption. He himself found considerable difficulty in distinguishing between the different kinds of eruption attendant on, and said to characterise typhoid and typhus fevers, as, in some cases, he had noticed the rose-coloured eruption become of a dark hue, while in others no such change took place. He could diagnose between typhus and typhoid fevers, by the condition of the glands in the intestinal canal, and by the state of the tongue and of the abdomen, the excretions, &c., but not by the appearance of the patient's skin. The conclusion he drew respecting the eruptions was, that when the spots were dark-coloured, it was much less common to meet with intestinal ulceration. He had ascertained, by the examination of bodies after death, that when the rose-coloured eruption existed, there is always ulceration of the intestinal canal; in the dark-coloured eruptions that condition is always absent.

Mr. Sankey remarked, that when he first became connected with the London Fever Hospital, he held the same opinions as Dr. Barclay. His ideas were confused, and he did not know when he should and when he should not find abdominal lesions. He had found the same degree of confusion respecting these eruptions in the latest works on medicine. Watson, in speaking of the rashes, evidently confounded the two forms which appear in typhoid and typhus fevers. His description is that of the typhus eruption; but he mentions one symptom which belongs solely to the typhoid. This state of mental confusion was removed by the perusal of the last edition of Louis' work on "Fever," to which his attention had been directed by Dr. Jenner. He did not hesitate to say, that when the distinguishing characters of the two rashes are clearly understood, (and they may require some well-marked cases placed side by side to elucidate them,) there will never again be the least chance of their being confounded together; indeed, he added, the nurses of the hospital had learned to diagnose between the two forms of fever from the characters of the eruptions. So accurately can the diagnosis be made when either of these kinds of spots is present, that out of from 200 to 300 autopsies, there has not been a single error in the diagnosis, as to the existence or absence of disease in Peyer's glands. As stated in the paper, for two or three years past, the majority of cases at the Fever Hospital were instances of typhus; there were not, in fact, any cases of typhoid fever, and, consequently, ulceration of the intestines was not met with. While typhus was thus raging in London, the parish authorities of St. Margaret's, Westminster, their own infirmary being crowded, sent many cases to the hospital, chiefly of the newly-arrived Irish; these cases were all typhus. Before the epidemic was on the decline, fever broke out in the Westminster-school, and in the precincts of the Abbey. Two domestic servants of one of the prebendaries were admitted into the hospital, and their cases were clearly typhoid fever. It was supposed, at first, that the epidemic had spread to the precincts, but he (Mr. Sankey) stated to Dr. S. Smith, who had been directed to investigate its characters, that it must have arisen from some other cause than contagion, as it was essentially different from the cases previously under treatment from that neighbourhood, and, in all probability, was connected with some local cause. This proved to be the case, as a foul and obstructed drain was discovered passing at the rear of all the houses in which fever had broken out. He (Mr. Sankey) could corroborate Dr. Stewart's remarks as to the early occurrence of intestinal ulceration in typhoid fever, for he had seen, a few years ago, a case of extensive intestinal disease in a woman who was working on the Friday, and died of typhoid fever the succeeding Monday. The solitary and agminate glands were perfectly hypertrophied on that, the fourth day of the fever. He could readily conceive that confusion with respect to the eruption might arise, unless several cases, from twenty to twenty-five, were seen and examined at the same time. A number of cases were sent into the hospital as instances of fever, which in reality were not such, but cases of bronchitis, pneumonia, &c., with febrile disturbance. In fact, a disease has often been named fever, because it cannot be clearly made out to be anything else—by a process of reasoning by exclusion. If the disease be not (or, what is the same thing, be not discovered to be) inflammation of this or that organ, then it has ever been taught that such disease should be called fever; so that the word fever has been, as it were, a shelf on which to deposit those cases which do not readily fit any place in the nosological system.

Dr. Baly remarked that if the assumed fact Dr. Jenner had related, of the connexion of certain eruptions with certain forms of fever, be admitted as proved, then the additional fact, that cases of typhoid and typhus fever were rarely sent to the hospital from the same house, became very important, and would seem to show that they depend on different causes. They had had 117 cases of fever in the Milbank prison, while typhus and typhoid fever were prevalent without. Of these 117, about twenty cases ended fatally. In all these, there was great mischief in Peyer's patches and in the mesenteric glands. The cases in the prison were well-marked instances of typhoid fever. He

(Dr. Baly) was not very intimately acquainted with the characters of the eruption in typhoid fever, so as to be able to distinguish it from that of typhus, but from his general knowledge he was quite sure that a large number of cases may occur without any eruption at all.

Dr. West observed, that one form of fever which had not as yet been alluded to, the infantile remittent of children, had been considered by Barthez as identical with the typhoid of Louis, and in that opinion, he (Dr. West) agreed. It presented the same characters during life, and the same changes after death, as the typhoid described by Louis. The characteristic rash was, however, often absent. Among the poorer classes of society this form of fever is often very severe and even fatal. In no instance could he recollect seeing a case of infantile remittent when there was a case of typhus fever in the house, nor, on the other hand, could he recollect a case of typhus occurring when infantile remittent already existed in a house. These facts were, as far as they went, confirmatory of Dr. Jenner's views.

Dr. Webster inquired of Mr. Sankey if he meant to imply that medical men sent cases of pneumonia and bronchitis into the Fever Hospital, under the mistaken idea that they were cases of pure fever?

Mr. Sankey wished it to be understood, that in making these remarks, he meant other diseases than those the author of the paper and himself would call true fever. For, indeed, if every member of the Profession were agreed as to what cases were fever, and what were not; if the point were not an open question, there would be no discussion. The rules of the hospital expressly provide for the admission of all cases of febrile disturbance of a contagious nature, or likely to become such. In fact, cases of small-pox, acute rheumatism, pneumonia, bronchitis, &c., had been admitted even lately.

Dr. Heale was old enough to recollect the time when fever was said not to exist unless some acute lesion of an internal organ were present. He did not think it, therefore, very disparaging to mistake instances of bronchitis, pneumonia, &c., for cases of fever, especially when there was much febrile excitement. It was more likely to occur among the sick poor, the parochial surgeon being anxious to get rid of the charge of a case of complicated illness.

Dr. Webster inquired whether the author of the paper considered typhoid and typhus fevers at all contagious? It might be produced by other causes; and he instanced a case of eight people living in one room, all of whom were taken to the hospital with fever.

Dr. Barclay had tabularized the respective ages of patients in St. George's Hospital, labouring under fever, in whom the two different forms of eruption had appeared. From the age of 10 to 20, there were 5 rose-coloured and 3 dark-coloured; from 20 to 30, 7 rose, and 3 dark; 30 to 40, 5 rose and 3 dark; and from 40 to 50, 4 rose and 5 dark. The age of the patient influenced the duskiness of the eruption, the occurrence of which he considered to be casual, and depending on other causes than the peculiar character of the fever.

Dr. Merwyn Crawford thought that the difference of opinion between the physician to the Fever Hospital and that of St. George's, was owing to the fact that in the former hospital the patients were congregated together, and exposed to the influence of a virulent fever poison, and in the other the patients were disseminated throughout the wards, and the poison was much milder in consequence. He himself, like Dr. Barclay, was unable to recognise the exanthem. He believed the eruption was an accidental circumstance, dependent on an unhealthy locality and want of ventilation.

Dr. Jenner replied, that in common with all writers on typhoid fever, he had seen cases of that disease in which there was no eruption, and referred, in confirmation, to the analysis of cases he had published during the present year in the "Monthly Journal of Medical Sciences," (Edinburgh,) and that in the last week's *Medical Times* he had also shown, that the eruption was frequently absent in cases of typhus in children; that the paper he that evening had the honour of laying before the Society only spoke of the eruptions as diagnostic *when they were present*. Dr. Jenner then adverted to the fact, that the skin eruption was sometimes absent in scarlet fever and in measles, and to the bearing of this fact, as showing the invalidity of any arguments by which it was attempted to associate typhus and typhoid fevers, because the eruption was occasionally absent in these two diseases, and then stated, that in many cases the mulberry rash of typhus, on its first appearance, so closely resembled the rose-spots of typhoid fever, that, to one unused to observe them closely, they might appear, in rare cases, identical; but that his experience, grounded on notes of about 2000 cases of fever, made on the patients' admission into the hospital, and repeated on the subsequent days of their stay, warranted him in asserting, that if any spots, the characters of which were doubtful when seen on or about the eighth day of disease, presented at a later period the characters assigned in his paper, and figured in the wax model as those diagnostic of typhus, then if the patient died, no lesion of Peyer's patches would be found. With reference to the cases alluded to by Dr. Baly, Dr. Jenner remarked, that to be of value in determining the question on which the discussion had turned, *i. e.*, the diagnostic value of the eruption, it was absolutely necessary to confine the remarks to fatal cases examined after death. Dr. Baly had not stated whether such examination had been made with respect to the cases he had seen. With reference to Dr. Crawford's opinion, that the impure nature of the atmosphere of a hospital in which so many cases of fever were accumulated, might account for the dusky nature of the rash in the cases of typhus, and that, probably, difference in the locality in which St. George's and Middlesex Hospitals and the London Fever Hospital were situated, might also aid in accounting for the discrepancy in the opinions of Dr. Jenner and others, he (Dr. Jenner) observed that the latter institution received patients from all localities indiscriminately; from almost every parish in and around London, from Bethnal-green, Holborn, St. Pancras, Marylebone, Kensington, and Fulham; from Greenwich, Clapham, Wandsworth, and Harrow; and that, consequently, locality could not account for the peculiarities observed in the disease; and, moreover, that he (Dr. J.) had visited the houses of the people in very different localities, and could not observe any difference in the hygienic conditions of their inhabitants. As to impurity of atmosphere, those who had visited the fever hospital could not attribute anything to that cause, but those who had not must detect how little force the supposed impurity could have exerted, when they remembered that it was in that hospital, the air of which was *fancied* by Dr. Crawford to be so impure as to convert the rose rash into the mulberry, that such conversion was averred by Dr. Jenner *never* to take place. Dr. Jenner stated, that his observations fully confirmed those of Dr. West, that the ordinary remittent fever of children was really typhoid fever; and that, although several children in the same house occasionally suffered from that disease at the same time, or soon after each other, he (Dr. Jenner) had never seen it give rise in such houses to typhus fever. Dr. Jenner reminded Dr. Stewart, that, in the papers before referred to, he had himself mentioned a fatal case of typhoid fever, in which there was a distinct relapse, accompanied by a second crop of eruption. Dr. Jenner did not consider Dr. Christison having suffered from fever three or four times was any proof that typhus fever recurred in the same individual more frequently than typhoid fever, because that gentleman might have had typhus fever, typhoid fever, and relapsing fever, and as he drew no distinction between them, he would call them all continued fever, and thus might be said to have had fever several times. Dr. Jenner dwelt on the importance of the agreement in the observations of Dr. Gerhard, in America, in 1837; Dr. Shutruck, in London, in 1839; Dr. Stewart, in Glasgow, 1840; and his own in 1849, and referred to Dr. Bartlett's recently published work, in which that author states, that he had seen cases of typhus and typhoid fever lying in Dr. Gerhard's wards in 1847, side by side, each disease marked by its own peculiarities, and added, that the preservation of its own peculiarities by each disease, when side by side in the same ward, was of frequent occurrence, on a large scale, in the London Fever Hospital.

Dr. Stewart begged to be allowed two remarks, notwithstanding the lateness of the hour, in reference to what had fallen from Dr. Crawford. That the peculiar symptoms referred to were not attributable, as Dr. Crawford suggested, to the concentration of the malignant virus was plain, from the experience obtained at the Edinburgh Infirmary. Along with his much lamented friend, Dr. John Reid, who had kindly furnished him with some interesting data for his paper in 1840, he had frequently visited the wards of that hospital, where the fever patients were distributed, as in the Middlesex Hospital, among those labouring under other complaints, and yet precisely the same symptoms presented themselves there as in the Fever Hospital, where, if Dr. Crawford would look in, the next time he was at Islington, he would find as pure air, and as well-aired wards, as in any hospital in London. But there was one observation of Dr. Crawford's that was of the utmost moment—that we should consider fevers not only with regard to time, but with regard to place. Dr. Crawford stated, that he had found no typhus at Munich, but he (Dr. Stewart) when he visited the Hospital at Stuttgart along with Dr. Kiess, found both it and typhoid fever in the wards. At Paris, as Dr. Crawford mentioned, there was never a case to be met with, and when Dr Shuttruck's cases were published in 1840 (only half a dozen), they made quite a sensation in the medical world. And now, there could be no doubt that there was a growing conviction in Paris, that the diseases were essentially distinct. In London, again, there were peculiar facilities for the careful study of this important subject; for, in no two great cities in the world were the numbers of the patients affected with each complaint so nearly equal.

WESTMINSTER MEDICAL SOCIETY.

Dec. 1, 1849.

F. Hird, Esq., President, in the Chair.

ULCERATION AND SLOUGHING OF THE RECTUM.—CONCRETION IN, AND ULCERATION OF THE APPENDIX VERMIFORMIS.—RUPTURE OF THE RIGHT AURICLE OF THE HEART.—ULCERATION OF THE TONGUE, GLOTTIS, AND TRACHEA.—PHTHISIS AND FOREIGN BODY IN THE TRACHEA.—FALLING IN OF THE WALLS OF THE CHEST IN LUNG DISEASES AND HEART AFFECTIONS.

Mr. Canton described the case of an old man, who had recently died in St. Martin's workhouse, exhausted by hæmorrhage. He was of intemperate habits, and, when drunk, used to eat largely of fish, of which he was very fond, and which he used rather to bolt than to eat. Since last February he had repeatedly suffered from hæmorrhage, which was supposed to depend on internal piles, and was treated accordingly. A few days before his decease, a person who was washing him perceived a small dark spicula protruding from the anus, which, on the surgeon's notice being drawn to it, was extracted, and proved to be a fish-bone. Several more were afterwards passed, and at last, the hæmorrhage continuing, the gut was examined by the finger, and more of these fish-bones were removed. The man sunk at last, exhausted by hæmorrhage. After death, a collection of fish-bones was discovered in different parts of the intestinal canal, some buried in fœcal matter, and some sticking in the coats of the intestine. They were of a very dark colour, and were supposed to have been thus deeply tinged by the bile. The rectum was ulcerated to a considerable extent, and sloughing in parts; in two or three places it was completely perforated, and the hæmorrhoidal artery was opened by ulceration. This was supposed to be the source of the hæmorrhage. Mr. Canton considered the case to be one of great rarity

Mr. Marshall exhibited an ulcerated appendix vermiformis, which had caused death by peritonitis.

His patient was a girl about twelve years of age, who had had an attack of vomiting and purging, from which she recovered in two days. A few days afterwards she complained of pain in the abdomen, with bilious vomiting, but no tenderness on pressure. In the evening there was pain in the right iliac region, increased on turning in bed, with tenderness on pressure. Leeches were applied, and relief followed; but the next day the pain had increased, and was general over the abdomen; there was not any anxiety of countenance; pulse accelerated, 100. Twelve leeches were applied, and bled freely; the pain and other symptoms being alleviated in consequence. Turpentine embrocations to the abdomen were also ordered, and Dover's powder, with calomel, given every three hours. The signs of inflammation, however, recurred and continued to increase; the abdomen became tympanitic, and the case ended fatally. The body was examined twenty-six hours after death. The usual results of acute peritonitis were found; the intestines adhering together. On examining the appendix vermiformis, an ulceration was discovered in it, about an inch and a half from the cœcum, large enough to admit a moderate-sized bougie. The opening was jagged and irregular. In the appendix there was found a hard concretion, the size of a hazel-nut, chiefly consisting of fæculent matter, arranged in concentric layers. Mr. Marshall stated, that this was the second case of the same nature he had met with in the last few months. In the other instance, there was also a tumour in the upper part of the thigh.

Mr. Hancock inquired whether there had been any particular hardness in the right iliac fossa?

Mr. Marshall, in reply, stated, that there was neither especial hardness, nor any fulness in that part.

Mr. Hancock had asked the question, because he thought the case somewhat resembled one which he had brought before the Medical Society of London some time ago. He had performed an operation in that instance, and had evacuated the fæcal matter from the abdomen, the patient recovering. He believed it was the only case on record in which such an operation had been performed with success.

Dr. Lankester then brought before the Society the heart of a man, whose case he thus described. He was a carpenter by trade, thirty-four years of age. Had long suffered from palpitations of the heart, and from nervous symptoms, resembling hysteria. He had been a patient in the Pimlico Dispensary. On Saturday night week, while drawing a truck, he suddenly fell down dead. When the body was examined after death, all the viscera of the body were found to be healthy, except the heart, the right side of which was greatly attenuated, so that on being held up against a candle, the light shone through it. There was a rupture in the right auricle to the extent of a shilling in size. According to the history of the case, there had not been any previous inflammatory action, nor was there any atheromatous deposit, nor any indication of ulceration. The rupture, therefore, must have depended on the state of atrophy, in consequence of which, the auricle was unable to resist the action of the heart, its parietes being very thin, and they accordingly gave way. On examining the fibres of the heart under the microscope, no preponderance of fat globules could be detected; but there was evidently a fatty deposit on the external surface of the right ventricle. The muscular fibres of the auricles were less in size than those of the ventricles. He (Dr. L.) had no means of comparing them with the fibres of a healthy human heart, but still he believed that a difference in this respect really existed.

Dr. Ogier Ward mentioned a case which he had seen only a few days before death occurred. The man had been suffering for some time from cough, debility, hoarseness of voice, inability to swallow, &c. There was no striking sign of disease about the chest. The respiration was bronchial in the upper part, vesicular in the lower. On percussion it sounded well. The expectoration was sometimes merely frothy, at others yellow, and like pus. It had ceased when Dr. Ward saw the patient. The man was then apparently dying from inanition and could not swallow even a little water. A strong solution of nitrate of silver was applied to the parts by means of the probang, after which he swallowed some water with facility, and took some nourishment equally well. This was practised on three separate occasions, with similar success, but it was too late; the man sunk. The examination of the body showed an extensive ulcer on the base and root of the tongue, the base of the epiglottis being also involved, thus explaining the severe pain felt in attempts to swallow, as during that process, those parts would be dragged down. The larynx and trachea were also ulcerated, and the lungs were universally affected with tubercle; none of them, however, of any size, being softened. The left lung was emphysematous.

Dr. Routh brought forward a case somewhat resembling the last. The patient was in the third stage of phthisis. A week before death there was difficulty in swallowing, causing violent cough. The patient complained also of a sensation as if there were ball in the throat. After death, there were found great thickening and enlargement of the glottis, with traces of ulceration. One inch down the trachea there was a projection in its paries, which proved to be a piece of bone (since lost), which had caused ulceration and absorption of the cartilage at the part where it rested. How it got there he could not well tell, but it had, in all probability, been swallowed about two years ago. It was about the size of a small pea, and of a jagged appearance.

Dr. Sibson then made the following communication:—

ON THE FALLING IN OF THE WALLS OF THE CHEST DURING INSPIRATION IN SOME DISEASES OF THE CHEST.

Dr. Sibson observed the remarkable phenomena in question for the first time in 1843. A young man aged 34, was admitted into the Nottingham Hospital, under the care of Dr. Hutchinson and Mr. White, labouring under extreme difficulty of breathing. The fauces and glottis were so much narrowed by disease, that only a very small portion indeed of air could enter at each inspiration. The countenance was pale and shrunk, and expressive of distress, anxiety, and starvation. He could only, with difficulty, swallow liquids. The whole chest was narrow and flat, the abdomen prominent. The lungs, though narrow, were much elongated, their inferior margin being more than an inch lower than usual. During each inspiration, all the respiratory efforts were laborious and powerful, but the whole of the sternum, the costal cartilages and ribs, instead of advancing, were actually forced backwards, to the extent, at the lower end of the sternum, of half an inch. At the same time, while the chest shrank inwards, the abdomen protruded considerably and forcibly. Mr. White performed laryngotomy. The air entered freely and the movements of inspiration, so singularly altered, immediately resumed their healthy play. The walls of the chest, instead of yielding inwards, advanced during inspiration; and the respiratory efforts, instead of being ineffectual and laborious, became effectual and easy. At the same time, the chest, formerly narrow and flat, became rounded and full; the lower margins of the lungs, which had been dragged downwards, ascended and resumed their normal position; the countenance, once pallid, shrunk, and anxious, was now ruddy, full, and placid; and the pulse, formerly almost imperceptible, became full and regular. The cause of the remarkable deviation of the respiratory movements in this case was readily apparent. Air could only enter the lungs scantily, and with difficulty; the muscular efforts at respiration were laborious; the diaphragm, acting on the base of each lung, descended forcibly, and lengthened the lungs from above downwards; the lengthened lungs, being inadequately supplied with air became narrower sideways, and the walls of the chest were forced inwards by atmospheric pressure. If a bladder, two-thirds filled with air, be lengthened, its sides collapse, and a piece of wood, resting on the bladder, will fall backwards; if we shorten the bladder, its sides bulge outwards, and the piece of wood supported by them will be pushed forwards. So with the lungs; if they be lengthened when air can scarcely enter them, during the efforts at inspiration their sides collapse, and the walls of the chest in front of them must fall backwards; on the other hand, if they be shortened during the attempts at expiration, their sides will bulge outwards, and the walls of the chest will be forced forwards. Such was the condition and such the chain of phenomena in the case just related,—a case which, in its respiratory conditions, may be readily imitated by any one on his own person. Pass a tape round the chest, close the glottis, and attempt to breathe by the diaphragm; the abdomen will protrude, the circumference of the chest will be narrowed, and its walls will be forced backwards. The action of the diaphragm overbalances the action of the muscles acting on the ribs, not because of the superior strength of that muscle; on the contrary, it is broad and sheet-like, while they are many of them strong and fleshy; nor yet because it acts directly, while they act obliquely; on the contrary, for the fibres of the diaphragm are bent upon themselves in an oblique convexity; their first action is to flatten the convexity, and then, when the fibres are bent almost at a right angle, they draw downwards the floor of the muscle, and so lengthen the lungs. The diaphragm overbalanced the costal muscles and ribs in the case in question, because of the ease with which the lungs can be lengthened from above downwards, gliding, as they each do, freely in an oval cylinder, composed of the costal walls; and, because of the comparative difficulty with which the whole of the walls of the oval cylinder in question can be simultaneously expanded sideways. The point is illustrated by the facility with which the piston of a syringe is raised, even when the mouth of that syringe is closed, and by the complete obstacle which is offered to the elastic expansion of a strong, empty, and closed india-rubber bottle. Since Dr. Sibson observed the case just related, he had noticed the same phenomenon in many cases in which there was obstruction to the entrance of air into the lungs through the large air-passages. He had observed it in cases of croup, of obstruction in the larynx, fauces, and nostrils. The appearance was not alone observed in cases where the obstruction was due to local disease; it was also to be observed, and in an extreme degree in every case in which there was convulsive closure, or great narrowing of the glottis during the struggling effort at inspiration, as in laryngismus stridulus, the first stage of hiccough, the whoop of whooping cough, and the inspiratory convulsions of hysteria. Dr. Sibson had not observed the walls of the chest to be forced backwards during inspiration, under the influence of obstruction in the outer air passages, to so great an extent in any other case as in that just related, and which he brought forward as a type of the phenomenon in question. The extent to which the respiratory movements of the walls of the chest are reversed in such cases is regulated by the amount of obstruction and the flexibility of the costal cartilages. If the obstruction be very great, the whole of the anterior thoracic parietes may be forced backwards during inspiration, the reversed movement being greater at the lower end of the sternum, and less at its upper end. If the obstruction be comparatively slight, the lower end only of the sternum, and the adjoining sixth costal cartilages will yield during inspiration, while the rest of the walls of the chest will, like those of the abdomen, move outwards. If the obstruction to inspiration increase in a case of croup, for instance, the extent to which the respiratory movements are reversed will proportionally increase, and, on the other hand, the extent will diminish as the obstruction to respiration diminishes. An exact measure is thus afforded, by close examination, from time to time, of the phenomenon in question, of the increase or diminution of the obstruction to respiration. If the entrance of air into one of the large bronchi be completely obstructed by the presence of a foreign body, then the walls of the chest will fall in, during inspiration, over that portion of lung supplied with air through the obstructed bronchus. If there be great obstruction to respiration in the smaller bronchial tubes, as in bronchitis, emphysema, and whooping cough, the same effect on the respiratory movements is produced as in cases where the obstruction is in the larger bronchial tube; the walls of the chest fall in. to a greater or less extent, in proportion to the degree of obstruction, and the flexibility of the costal cartilages. The extent to which the respiratory movements are reversed, is in no instance so great, in the cases where the small bronchi are obstructed, as it may be in those where the obstruction is seated in the outer air passages. In emphysema and bronchitis, while the abdomen protrudes, the upper part of the chest invariably expands during inspiration; while the lower end of the sternum, and the adjoining fourth, fifth, sixth, seventh, and eighth ribs may be forced backwards. In cases in which the obstruction is great, all those cartilages, as well as the lower end of the sternum, may fall in during inspiration; but in slighter cases, the yielding may be confined to the

lower end of the sternum. If bronchitis, or any disease in which there is obstruction to respiration in the smaller bronchi, be confined to one lung, or portion of lung, the reversed respiratory movements will be confined to the region of the affected portion of lung. Dr. Sibson had observed the walls of the chest to be forced backwards during inspiration in some cases of effusion into the pleura; the inspiratory descent of the diaphragm in such cases may cause the lengthening, and consequent collapse of the sac containing the fluid. If, in such cases, the effusion be so considerable as to displace the diaphragm to such an extent that it bulges downwards into the abdomen, then, should the diaphragm act, it will be raised, the pleural sac containing the fluid, instead of being lengthened, will be shortened during inspiration, and the walls of the chest, over the seat of the effusion, instead of being forced inwards will be forced outwards. When the whole or a great part of one lung is incapable of expansion, owing to condensation, then the walls of the chest over the affected lung are usually forced inwards during inspiration: in such cases the respiratory movements of the ribs of the opposite side are exaggerated, and the lower end of the sternum is drawn over, at each inspiration, towards the unaffected side; the ribs over the affected lung are in turn drawn over by the sternum, and they consequently fall in during inspiration. In two cases of fracture of the ribs with general emphysema, the side on which the ribs were fractured was indicated by the sinking in of the walls of the chest during each inspiration. When there is extensive effusion into the pericardium, and when the heart is enlarged and adherent, the lower end of the sternum and adjoining left costal cartilages may, in some cases, be forced backwards during inspiration The yielding inwards of the sternum and ribs during inspiration is most marked in those whose cartilages are flexible; it therefore occurs most frequently in children and young persons. Indeed, the inspiratory yielding of the walls of the chest is usually present in healthy infants, especially when they sob; in these the chest flattens during inspiration, the lower end of the sternum receding; but in rickety infants the chest narrows and the sternum protrudes, the parietes being forced inwards at the junction of the ribs to the cartilages. The phenomenon is least marked, or is altogether absent in those whose costal cartilages have become firm or bony; it is consequently seldom observed in the aged. It is very seldom that the four superior or thoracic ribs, or the four inferior or diaphragmatic ribs, fall inwards during inspiration, under the influence of obstructed inspiration; the reversed respiratory movement being usually confined to the lower end of the sternum, and to the fifth, sixth, seventh, and eighth, or intermediate costal cartilages and ribs. When the form of the chest is normal, the lower end of the sternum and the adjoining cartilages present the phenomenon in question, but when the sternum is unusually prominent, the ribs alone are forced inwards, and the sternum protrudes. Dr. Sibson described a case in which, owing to disease of the cervical vertebræ, involving the phrenic nerves, the diaphragm was paralyzed, and in which, while the thoracic parietes advanced, the abdominal parietes shrunk inwards during inspiration; and concluded by referring to the observations of the phenomenon in different instances, made by Haller and Lower; by Dr. Stokes and Dr. Williams in emphysema; and by Dr. G. A. Rees, Dr. Snow, and Mr. Hird in children; and by pointing out the practical value of the sign in question as an auxiliary in the diagnosis of diseases of the chest.

The discussion that followed comprised merely a few questions which were put to Dr. Sibson, the answers to which are embodied in the Report.

CORRESPONDENCE.

THE GENERAL MEDICAL ANNUITY AND RELIEF FUND SOCIETY.

[To the Editor of the Medical Times.]

SIR,—I read with feelings of regret and disappointment the leading article in your Journal of Dec. 1st, on the meeting of the subscribers to Mr. Daniell's Medical Annuity and Relief Fund; and your remarks on the Report of the Committee appointed at a former General Meeting "to inquire into the principles of the Society; to consider the rules and other questions relating to the matter of enrolment; to consult an actuary, if they deem it advisable, and to report to another meeting."

As one of six gentlemen appointed a Sub-committee for these purposes, I trust you will kindly afford me a little space to notice your remarks, which I confess have taken me by surprise, for I did not think that any medical journalist could have been opposed to the *only safe and secure plan* for carrying out a society of so philanthropic and sacred a character. Indeed, I can scarcely believe that the article could have been written by yourself, but by some disappointed person, whose vanity and self-love must have been wounded by the unanimous adoption of a report and plan which so strongly recommended themselves to the whole body of subscribers to whom the document was sent by post, that seventy-six fully approved of it, and only two offered any sort of objection; while at the General Meeting Mr. G. Ross was the sole opposer.

In the leading article Mr. Ross is mentioned as having made "an argumentative speech," and showed that the Report contained *numerous inaccuracies* and *mis-statements*. As to the argumentativeness of the speech, that is quite a matter of opinion; but, judging it by its effects, it seemed to fall powerless on its hearers, and was several times interrupted by the Chairman as very irrelevant. I am not aware of any inaccuracies contained in the Report, though some may have inadvertently crept in, for *humanum est errare*; but to assert that there are *mis-statements* is altogether untrue. Mr. Ross stood alone at the General Meeting, in contending for an institution which should be partly supported by an annual payment of one guinea, and partly by the *charity* of the public, and the richer members of the Profession. Mr. Daniell *has tried* this scheme, and supported it with all the ardour, energy, and disinterestedness for which he is so distinguished, and he has found it wanting. It has utterly failed; for how could a guinea subscription from any number of gentlemen support a superannuation fund for themselves, and supply annuities for their widows and orphans, even though aided by donations, which are always precarious? If Mr. Daniell has failed in his philanthropic and kindly intentioned plan, what other member of our Profession could hope to succeed upon the same principle, except, perhaps, Mr. Ross? Mr. Daniell, with rare magnanimity and singleness of purpose, has abandoned his scheme, which experience has taught him to be *impracticable*, and he has warmly recommended to his friends and subscribers the plan of the Sub-committee. Mr. Ross, with Quixotic chivalry, but doubtless with perfect sincerity and good faith, endeavours to resuscitate a defunct Society, which is repudiated by its founder and the Profession. Why, this is trying to out-Daniell Daniell! Surely a hopeless task.

Was it necessary, then, seriously to combat arguments which every one felt to be useless, irrelevant, and out of date? But, several gentlemen *did reply* to them, and that to the satisfaction of the meeting, though your reporter has been pleased not to notice their speeches. You, however, with the free and easy off-hand editorial style, "presume that these errors and misrepresentations were indefensible!" and you *naively*, but authoritatively add, "that another such Report would ruin the Society." If you mean the old Society, it is ruined already; if you mean the proposed new one, I so entirely differ with you, that I boldly say, (and I have had some experience in these matters,) another such Report and the Society will be firmly established on a sure and solid foundation!

As I cannot suppose that you have read the Report of the Sub-committee, I enclose a copy for your perusal. When you have dispassionately considered it and the excellent letter of Mr. Daniell prefixed, I shall be willing to abide by your own decision as to the course which has been recommended, viz., the abandonment of the old, and the formation of a new and much more extended Society, which shall be founded on sure and safe principles and data—such as can be approved by the most eminent actuaries.

You must remember, that the *outlines* only of a plan have been indicated, out of several which have been considered. Among others, Mr. Hawtayne's, of which and its author you have spoken, I regret to say, unjustly. Mr. Hawtayne has most liberally placed his plan, which must have cost him much time and labour, at the entire disposal of the Committee, and has given much information, which will greatly assist the new Sub-committee, in filling up details, and forming a working scheme, which will, I trust, not only be worthy of, but will receive the support of the whole Profession. I will only further add, at present, that the Sub-committee will gratefully receive any suggestions which may kindly be offered them, whether by the Medical Press, by the subscribers to Mr. Daniell's fund, or by the members of the Profession at large, as the sole object is to form as perfect and as useful an Institution as possible.

I remain, Sir, your obedient humble servant,
Dulwich, 12th Dec., 1849. GEO. WEBSTER.

[There are two or three points in the above letter which we think it necessary to notice. Although exceptions may be taken to the very questionable taste which it evinces, we shall leave that matter to be settled between Dr. Webster and our readers, and we shall limit ourselves to a few remarks on the charges it brings against us in our Editorial capacity. In the first place, we are not opposed to a "safe and secure plan" for carrying out the benevolent object designed by the Committee of the Medical Annuity Society—this would be absurd; but we must wholly dissent from the gratuitous assumption, that the plan adopted is the *only* safe and secure one. This is asking too much from the confidence of the Profession. The plan proposed may be both safe and secure, but will it supply the necessities of those members of the Profession whom we more especially desire to see benefited? Will it, in short, realise Mr. Daniell's original intention? This gentleman himself has expressed his serious doubts upon the matter, and surely we may be permitted, without offence, to doubt also.

Again, Dr. Webster admits that there may be "inaccuracies" in the Report, but denies that there are mis-statements. This appears to us to be a distinction without a difference. An inaccurate statement on a point of fact is a mis-statement; and, although we admitted, that it might be unintentional, that admission does not invalidate the appropriateness of the phrase. In the Report forwarded to us, which was much fuller than that published, we certainly observed, in an exposition of the speech made by Mr. Ross, errors of a very grave character, which, however, from feelings of delicacy, we deemed it advisable not to publish. Dr. Webster has challenged inquiry, and, we think, without much discretion. In all these matters we are resolved to pursue an independent and unbiassed course, and to express our opinions frankly, as they may appear to us to be grounded in truth. Such conduct is more necessary upon this question than almost any other, as it involves pecuniary transactions, and affects our most valued social interests. The policy of the Sub-committee, therefore, is fairly open to criticism, and, for the sake of truth, demands it; and it does not appear to us that it can be satisfactorily defended by incriminations of private individuals. Our zeal in this matter shall not slacken; nay, we are prepared to agitate the subject widely, and to sacrifice much time and labour rather than the cause should fail; but we hold that the first guarantee of success will consist in the appointment of proper persons to responsible duties. The high character of Dr. Forbes, of Mr. Daniell, of Mr. Propert, and other gentlemen, affords the best security that can be desired; but the practical evils will originate in the practical duties of the Society, and here it is that practical men must be found. As we are not aware that any appointments have yet been made, we cannot be considered as unduly reflecting upon any individuals. We hope that such reprehension will never become our duty.—ED. *Medical Times*.]

THE CHOLERA AT TORPOINT.

To the Editor of the Medical Times.

SIR,—As a subscriber of some years' standing to the *Medical Times*, you will, I think, grant me the privilege of a short space in your valuable Journal, more particularly as I know you are ready, at all times, as far as in you lies, to do justice to all parties; and as the subject with which I desire to occupy your columns is one involving justice to others as well as myself, I feel assured you will not refuse my application.

In the *Medical Times* for the 15th December, appeared as an original contribution, and certainly it is an original production—The Cholera—Torpoint, Devon (Cornwall it should be.) It is on Mr. McClure's paper I desire to make a few observations. In the first place, with reference to the sanitary state of the

town, as the resident medical Practitioner, I must say that the picture is overdrawn, and more particularly with regard to the supply and quality of the water, on which much stress is laid. Mr. McClure says, "it is with difficulty that they can procure enough for culinary purposes, and even this is of a deleterious and unwholesome quality. The reader of this would be inclined to imagine that we are very dirty people in the west, and never drink any water, in consequence of a dearth of that great blessing. I have practised here for some years, and never remember a state of things at all corresponding to that detailed by Mr. McClure. The sanitary state of Torpoint altogether, is, I should say, decidedly superior to that of the majority of small towns, and even many large. As a great advocate of sanitary reform, I have often had occasion to feel that there are more difficulties in carrying out its details than perhaps Mr. McClure can possibly conceive, and, therefore, I think his remarks quite out of place. The special object of my writing is with reference to that portion of the paper which relates to the epidemic outbreak of cholera in this place; and here it is that Mr. McClure has (possibly inadvertently) done the greatest injustice to the other assistants who kindly afforded their aid, as well as to myself. Any one reading the statement therein contained must infer, that up to the period when Mr. McClure came among us we were in a perfectly ignorant state, as to the means proper to be adopted at such a moment. Now, was it likely, with all the warnings we had of the approach of the disease, that any medical man could be careless or lukewarm under such circumstances. However, I am sure I shall be able, from facts, to prove quite the contrary. At the first outset of the cholera I worked alone, but soon required assistance, which was kindly and immediately afforded by Mr. Howard Banks, at present Surgeon of H. M. S. Terrible. This gentleman rendered me most valuable service for about three weeks, when his child being taken very ill he was compelled to leave. I then obtained the assistance of Robert Liddell, surgeon, of Bodmin, also a naval surgeon, who was obliged to leave again in a very few days in consequence of a severe attack of diarrhœa. It was at this time I was granted, through the kindness of Captain Joseph Nicholas, the assistance of Messrs. Burder and McClure, but, as the epidemic had abated in virulence, the former gentleman was recalled after a few days; Mr. McClure remained with me. In one part of the report I am said to be unable to attend to my duties. I am thankful to have it in my power to say, that such was not at any time the case, during the prevalence of cholera in this place. The only occasion on which I took any rest by day was for two or three hours on the very day on which Mr. McClure arrived; but that same evening I saw between fifty and sixty patients, and had been up night and day for three weeks or a month, as also had Mr. Banks. I never relinquished my duties during the whole period of the epidemic. The paper in question also states, that the disease went on steadily progressing until the 2nd of September (the day of Mr. McClure's undertaking his duties), when, *mirabile dictu!* from that period it was perfectly manageable; whereas, the fact is, that the disease reached its *maximum* of intensity about August 27th and 28th, and from that date began steadily but decidedly to decline; so much so, that on September 2, the number of deaths had diminished down to about one a day, having been previously five times that number. This can be proved by a reference to the Registrar's book. Every Medical man is also familiar with the fact, that it is one of the characteristics of cholera to go on steadily increasing to a certain point, and then steadily and gradually to decrease. Scarcely any one, I imagine, will be inclined to attribute the disappearance of the disease to Mr. McClure's appearance among us, as would appear from his Report; for he dates the commencement of a return to a better state of things from the very day on which he came here. I can prove that it was considerably before that eventful period. We are further told, in that gentleman's report, that house to house visitation, houses of refuge, and sanitary measures were entirely, or to a great extent, neglected until his arrival. This I consider the most serious charge against me and the other assistants who had acted with me, inasmuch as I think the neglect of such essentials in the treatment of cholera would be highly culpable; but, in reply, I am happy in being able to say, and can prove, that there was no such neglect, and that all the treatment and precautions, to the value of every one of which I am quite alive, inculcated in his paper, were in active operation long before I had the benefit of his assistance. Mr. McClure goes on to say, that twenty-nine people died before he arrived, and only eight after; and upon that at once argues, that it was in consequence of his treatment; whereas, I can prove that not the slightest change in treatment took place; but he does not appear at all to recognise the fact of the decline of the disease before he came among us.

But, even supposing all that the Report says with regard to the Cholera in my poor little town were true, I still think it would be ungenerous in one Medical man to expose the deficiencies of another, even if, by such means, he could in any way advance himself. I certainly should feel great sorrow and regret, if I did not believe and know, that everything that could be done by human agency was done during the whole of the period in which the cholera raged here. I do not write this from any ill-feeling towards Mr. McClure; on the contrary, I shall always feel thankful to him for the assistance he gave; but, in common justice to myself, and those who assisted me, Messrs. Banks, Liddell, and Burder, I cannot allow such statements as Mr. McClure's to remain unanswered. The inference expressed in the Editor's remarks on the paper, is the very one which would be arrived at on reading it, namely, that Mr. McClure had arrested the cholera at Torpoint. I am afraid that we require a more powerful intellect even than Mr. McClure's to arrest cholera; but certain it is, that the cholera had nearly spent itself in our place on his arrival, and that, perhaps, led him into the error of believing he was the means of freeing us from this dreadful scourge. My reply to Mr. McClure's paper I have made as brief as possible, consistently with the circumstances, which, I think, demand quite as much as I have said on the subject, if not more. I cannot conclude this without thanking Captain Joseph Nicholas, the members of our indefatigable Local Committee, and all who so kindly gave their assistance during the late fearful visitation of Providence, to all of whom too much praise cannot be given. I remain, Sir, yours truly,

Charles William Chubb.

Torpoint, Dec. 17, 1849.

MEDICAL LICENSES IN THE ISLAND OF NASSAU.

[To the Editor of the Medical Times.]

Sir,—I received yesterday a file of newspapers from Nassau, New Providence, the chief of the Bahama Islands, of which colony my brother, H. E. John Gregory, Esq., is Governor.

From the *Nassau Guardian* of Wednesday, Oct. 31, 1849, I have extracted the subjoined edict:

"Government Notice.

"His Excellency the Governor has been pleased to direct the names of those gentlemen who have taken out licenses to dispense medicines under the provisions of the Act 9 Vict. c. xx., to be published for general information.

"They are as follows:—

"Mr. Thomas Brace—license dated 26th Sept., 1849.

"Dr. Chipman, } as joint proprietors of Nassau
"Dr. Duncome, } Apothecaries' Hall—license
"Dr. Black, } dated 11th Oct., 1849.

"Dr. Kirkwood—license dated 11th Oct., 1849.

"Any person selling or offering for sale by retail in this island, personally or by any person in his or her behalf, any drug, medicine, or any preparation thereof (calstor oil, the manufacture of this colony only excepted), without having obtained a license for that purpose, is liable under the said Act to be fined any sum not exceeding 20*l.* for every such offence, on conviction before the police or stipendiary magistrate, or two justices of the peace.

"By His Excellency's command,

"F. MacCarthy, Acting Colonial Secretary.

"Colonial Secretary's Office, Nassau,
22nd Oct., 1849."

May I venture to inquire, if you or any of your numerous readers are cognizant of the existence of such an Act as that of the 9th Vict., c. xx., giving to local Governments a control over the dispensers of medicines.

Presuming that the object of such an Act is not the raising of a petty colonial revenue, but a benevolent desire, on the part of the Government, to promote the welfare of the lieges, I beg further to inquire, how it has come to pass, that a similar provision for the inhabitants of the mother-country has not been deemed necessary?

Facilities for procuring poisons have been cleverly shown up by *Punch*, but *Punch* was probably as ignorant as myself, that the Parliament of Great Britain legislates for the Colonies in a different spirit to that in which she legislates for this country.

I am, Sir, your obedient servant,

George Gregory.

6, Camden-square, Camden New Town,
Dec. 11, 1849.

CHOLERA.

[To the Editor of the Medical Times.]

Sir,—Mr. Ebsworth has not yet convinced me of the contagious nature of cholera, as I find the cases in the sequel as inconclusive as those he first published. He states, "The disease broke out in Bellwell, and when it began it had not become universal in the village." I am not aware any epidemic becomes at once universal. It appears, the disease did spread over the village, and, as it broke out epidemically, I would conclude it spread epidemically, as an epidemic, for I do not consider his cases distinct evidences of contagion.

With respect to Mr. Moyles' cases, they are similar to Mr. Ebsworth's, and are open to the same objections. He says: "The disease was brought into his district by John Sandoe, from a place seven miles distant, and communicated to Elijah Here, his son," &c., &c. Who was attacked first he does not say but he visited Sandoe and his son, both lying in a state of collapse at the same time. This savours very much of an epidemic origin; it is unlikely the effects of contagion would have been so rapid. I must inform Mr. Ebsworth, I do not rest my opinions of the non-contagiousness of cholera upon the fact of "six or seven persons in a room with a cholera patient *sometimes* escaping," but on the fact of the cholera *never* having been communicated when the patient has been removed to a locality where the epidemic influences are absent.

With respect to the obfuscated epistle of Dr. Clanny, in your last Number, I must confess I don't quite understand it; he forgets, in his grandiloquence, to tell us "what very painful duty he had to perform," or what was the nature of his important "position;" and then flies off to Dr. Copland's Dictionary as an authority for the endemic nature of cholera. I have not denied its endemic character, and Dr. Clanny ought to have known this, and would have known endemic does not mean contagious, had he not "dismissed from his mind all he had previously read on this subject."

Insipientis est dicere, non putarum.

I am, Sir, your obedient Servant,

Thomas Leithhead.

Warkworth, Dec. 10, 1849.

GLYCERINE.

[To the Editor of the Medical Times.]

Sir,—Glycerine has been of late undergoing the usual course of under-rating and over-rating to which every new remedy is invariably exposed; and as I think the "*contra*" side is now getting rather over strong, I beg to declare myself among the "*pros*," for the good reason that I have used it much, and have found it most serviceable in a number of cases; so much so, that I believe I should be puzzled to find an efficient substitute for it. Such cases are the following:—

1. *Superficial burns*, whether the vesications are broken or not. Used with an equal quantity of water, and applied with a camel's hair brush. It gives great relief, and keeps the part moist for a long time. This is most useful in burns of the face near the eyes, &c., or where dressings on lint, &c., cannot be well used.

2. In *sore nipples*. In these cases it was first recommended, I believe, by Mr. Starlin, in the *Medical Times*, and I have never found any other application nearly so effectual. About one part to six or eight of water succeeds the best.

3. In the *excoriations* in the groins, nates, and behind the ears of infants.

4. In *porrigo favosa and scutulata*, and other skin diseases, but especially in the first-named (when the crusts have been removed by bread-poultices). It should be used as a wash, diluted with eight or ten parts of water. I employ the pitch and sulphur ointment at the same time in these cases; but I do not find the latter so rapidly effectual *alone*.

My actual experience in the use of this remedy goes but little further; but I have no doubt it is very useful in chaps, &c., as Mr. M'Dougal has said, and, indeed, in any of the numerous class of cases where it is an object *to secure moisture of surface, and to protect from exposure to air*. At the least, I cannot consent, at the suggestion of another of your correspondents, to mount a crape hat-band, *as yet*, for glycerine.

I am, Sir, yours very obediently,

Thomas Edward Amyot.

Diss, Norfolk, Dec. 10, 1849.

CHOLERA HONOURS.

[To the Editor of the Medical Times.]

SIR,—I beg to call your attention to the Government's entire neglect of the labours of the Profession in relation to this dread pestilence, and the utter want of provision for the widows and orphans of those worthy men who fell a sacrifice to their courage and devotedness in this perilous service.

Military men are bedecked with stars and ribands to commemorate the glories of blood-shedding and public rapine, and pensions are awarded to the descendants of these honourable man-slayers, lest the country should haply forget the obligation; but who heeds the less dazzling, but more dangerous duties, of the civil surgeon, contending with disease, pestilence, and death, in the filthy alleys of this overcrowded and plague-breeding metropolis? If soldiers and sailors are to be remunerated with titles, rank, decorations, prize-money, and pensions, in consideration of the risk of their lives in the service of the public, is there no reward for us who have stood by our post of duty, and fought a good fight on the field of pestilence—who, better than destroying, have endeavoured to save human lives, and to bring home health, comfort, and joy to ten thousand dwellings—who have neither laid waste nor burned, nor bereaved wives and children of their natural protectors, but have restored many that have been deemed lost, and recovered prosperity with the salvation of life.

Ours was a mission of mercy, and our lives have been risked daily for the benefit of dying thousands. The public has a true instinct of our claims, and would be willing, if it knew how, to acknowledge them. The numerous articles in the public Press testify to the general sense of our services which the public entertain. It is our duty to give a direction to this sympathy, and endeavour to obtain a national recognition of our labours from the Government itself.

I need not refer to the names of Harvey, Hunter, Jenner, unpensioned, and untitled, as instances of a nation's forgetfulness of its benefactors; let us hope that the era that witnessed these things is passing away, and that the genius of destruction is paling her crest before the rising radiance of a purer and a wiser civilization.

I shall be happy, Sir, to form one of a Committee with any gentlemen who may be willing to take up this question, and will communicate with me upon the subject. This will make a beginning.

I am, Sir, yours most truly,

GEORGE ROSS.

24, Farringdon-street, December 10th, 1849.

CREOSOTE IN BURNS AND CHILBLAINS.

[To the Editor of the Medical Times.]

DEAR SIR,—I have had two opportunities of trying the effect of creosote upon burns, in both cases with the most complete success; the first, my own, a severe burn on the back of the hand. The pain was relieved almost instantly.

Supposing that considerable analogy existed between burns and chilblains, I have tried the effect of creosote upon them, in several cases among my children, and in every instance the irritation has been allayed, and an almost miraculous cure has been effected.

I do not know whether this is known to the Medical world; if not, perhaps it may be worth while to notice it in your valuable periodical.

Dear Sir, yours very truly,

W. W. BOREHAM, F.R.A.S.

Haverhill, Dec. 12, 1849.

MOUSTACHED STUDENTS.

[To the Editor of the Medical Times.]

SIR,—I am an old man,—old in years and in practice, dating before 1815. I do not often come to London, but now I am detained here on business; and so, waiting on the "law's delays," and with somewhat of the passion still strong within me, I have visited the London hospitals. Much to my surprise, I observe several students wearing moustaches. May I take the liberty, Mr. Editor, of asking you why such things are allowed? In my time no student would have dared to present himself in the lecture-room so disguised.

I am, Sir, &c.,

SENEX.

[We beg to assure "Senex," that moustaches have their uses; and, among the most important they are considered to point out the idlest, the vainest, and most self-conceited, if not probably the most dissolute in the class. They are beacons to warn others. —ED. *Medical Times.*]

MR. FERGUSSON'S CASE OF EXCISION OF THE HEAD OF THE FEMUR.

[To the Editor of the Medical Times.]

SIR,—About three months since your Journal contained the report of an operation of excision of the head of the femur, by Mr. Fergusson, at King's College Hospital. I have been narrowly watching this case ever since, and as the patient has just been dismissed from the Hospital, I beg to give to your readers an exact account of the condition in which the patient is now in.

In the first place, I may mention that, instead of lying crippled in his bed, sweating at night, and rapidly wasting away, the little fellow has quite recovered his health, and has become much stronger and stouter, and he has been, for the last month or six weeks, in the habit of running about the yard and ward of the Hospital, by means of his crutches.

The following is the condition of the limb itself:—The thigh, measured from the anterior spinous process of the ilium to lower edge of patella, is just one inch and a half shorter than the other, and in its circumference it is about a quarter of an inch larger than the other, and the flesh is much more firm. The following are the movements of the hip:—There is almost perfect power of flexion of the thigh on the pelvis, and, when standing on his sound leg and resting on his crutches, he can swing the limb well backwards and forwards. There is tolerable power of adduction, but the aptitude for rotation outwards is nearly abolished. Whilst using his crutches he can plant his toes pretty firmly on the ground. The whole of the wound is not quite closed, but it is merely superficial, and there is no diseased bone remaining. The patient has been sent down to Brighton for the benefit of the sea air.

Here is an additional instance of one of the triumphs of modern surgery; and as time draws on and we have more experience of this operation, I have little doubt it will be estimated in its proper light. The surgeons of England are already convinced of the use of this proceeding. I know some good and cautious surgeons who are prepared to put the operation in force whenever they get a proper opportunity; and I understand that a surgeon of considerable experience in one of the provinces, influenced by the views propounded by Professor Fergusson and myself, has put the operation in force with admirable success within the last few months, and that a full account is shortly to be published.

I am, yours obediently,

HENRY SMITH.

Caroline-street, Bedford-square.

NECROSIS FROM PHOSPHORUS.

[To the Editor of the Medical Times.]

SIR,—In your Number for November 17th there is an interesting report of a case of necrosis of the lower jaw from exposure to the fumes of phosphorous acid vapour, with a note at the end, mentioning that an analogous disease is produced in the bones of cows exposed to the fumes of arsenic; and this seems to me the more interesting from the fact, as mentioned in Roser and Counderlich's Journal for 1845, that while the cases of necrosis at Vienna (a) came out of many manufactories, those at Nurnberg came from one only, although similar conditions, with respect to the phosphorous acid fumes were present in all, and in that one the possessor made use of Austrian phosphorus, which was ascertained, by Proffessor Dr. Martins, to contain arsenic. Now it seems to me an important fact, to determine whether the phosphorus employed in Britain be so contaminated or not? In the same Journal is a case of a girl seven years old, who, from merely being allowed to play with lucifer matches, amusing herself with lighting them and seeing them glimmer in the dark, got a partial necrosis of the lower jaw; this shows how virulent these fumes are, and how careful people ought to be in preventing children thus dangerously amusing themselves. As it may prove interesting to some of your readers, I add an analysis of the diseased bone from one of the Nurnberg workers, by the Freiherr von Bibra. A is a portion of bone taken by an angular cut out of the left side of the jaw from the foramen mentale; B the new bone upon it; C, a portion of the new grey pumice-stone-like and apparently lavious bone, sawn off behind the foramen mentale towards the linea external obliqua.

	A	B	C
Phosphate of lime	56·80	46·01	45·22
Carbonate	7·25	7·90	5·27
Phosphate of Magnesia	1·42	1·50	2·01
Salts (sol. in water)	0·91	1·50	1·03
Cartilage	32·20	40·87	29·33
Fat	1·42	2 22	7·14
Organic Matter	36·62	43·09	46·47
Inorganic Matter	63·38	56·91	53·53

In a second case, A is a piece of bone, B of osteophyte.

	A	B
Phosphate of Lime	63·02	58·98
Carbonate	3·57	4·05
Phosphate of Magnesia	1·22	1·35
Salts (sol. in water)	0·89	1·00
Cartilage	29·74	30·97
Fat	1·56	3·65
Organic Matter	31·30	34·62
Inorganic Matter	65 70	65·38

Basic salts and free phosphorus were sought for but not found. F. v. Bibra remarks, that in all pathological new formations of bone the organic matter and fat are increased, and that a similar relation of the organic to the inorganic matter is found in most diseased bones. Microscopically examined, the old bone showed enlarged canals, lacunæ, and canaliculæ; the new the same, but larger, and the canals twisted and winding, which F. V. Bibra had already remarked in bones affected by other diseases, as by exostosis, &c.

I remain, Sir, yours respectfully,

Cramond, Dec. 8, 1849. G. W. BALFOUR.

(a) A description of the cases occurring at Vienna and the means adopted by the Austrian Governmen to prevent the recurrence of the disease, was published by me in the *Northern Journal of Medicine* for 1846.

MURDER OF A FRENCH PHYSICIAN.—*La Presse* mentions that a physician, in the department of the Loiret, M. X., aged 66, who had saved 100,000 francs, (4000*l.*,) lately married a third wife, aged 21, on whom he settled all his property by the marriage contract. A few days ago he was found hanging. From the evidence, it was ascertained that he was first strangled and then hung. The police have arrested his wife and a young soldier, whose mistress she was said to be.

HEALTH OF LONDON DURING THE WEEK ENDING DEC. 15.

The past week again exhibits a decrease of the average rate of mortality at this season, and also a decrease on the previous week of 51. The Registrar-General remarks, that the increase of mortality was preceded and accompanied by a decrease of temperature, (the mean having fallen about 16 degrees in three weeks,) and a rise of temperature is now followed by a slight decrease in the total number of deaths. The deaths from diarrhœa number 14, being under the average by 9; and only 1 death from cholera is returned, (in Horace-street, Marylebone,) the average of five autumns being 8. Small Pox, scarlatina, hooping cough, and typhus, are still on the decline; measles, however, show a slight tendency to increase; the deaths from phthisis were 08 against the average of 128, while bronchitis shows 21 over the average. The Registrar of Goswell-street sub-district, reports, that within two weeks he has registered the deaths of three persons 9, Charles-street, Northampton-square, where the family had recently lodged:—first, a young woman of 19, who died of erysipelas (4 days' duration) and of œdema of the glottis, (12 hours;) next week her parents, who were 48 and 47 years of age respectively, and died within 48 hours of each other, the father also of œdema of the glottis, (48 hours,) congestion of the lungs, (24 hours;) and the mother of congestion of the brain, after 48 hours' illness.

It is remarkable, that in the West and North Districts of the Metropolis, which stood most favourably as to cholera, the total deaths are now at about the average of 5 years; whilst in the Central, East, and South Districts, where the fatal epidemic was most virulent, the deaths now stand very considerably under that average,—the decrease in the three Districts amounting to 148.

MORTALITY TABLE,

(Metropolis.)

For the Week ending Saturday, Dec. 15, 1849.

Causes of Death.	Total	Average of Five Autumns.
All Causes	1002	1162
Specified Causes	998	1158
Zymotic (or Epidemic, Endemic, and Contagious) Diseases	180	307
Sporadic Diseases:		
Dropsy, Cancer and other Diseases of uncertain or variable seat	42	49
Tubercular Diseases	163	178
Diseases of the brain, Spinal Marrow, Nerves, and Senses	114	125
Diseases of the Heart and Blood vessels	39	40
Diseases of the Lungs, and of the other Organs of Respiration	219	214
Diseases of the Stomach, Liver, and other Organs of Digestion	61	65
Diseases of the Kidneys, &c . .	14	11
Childbirth, Diseases of the Uterus, &c	7	10
Rheumatism, Diseases of the Bones, Joints &c ...	16	8
Diseases of the Skin, Cellular Tissue, &c.	3	1
Malformations	3	4
Premature Birth and Debility	19	23
Atrophy	15	18
Age	16	57
Sudden .. .	23	12
Violence, Privation, Cold, and Intemperance	44	36
Causes not Specified	4	4

The following is the number of Deaths occurring from some of the more important special causes —

Apoplexy . .	25	Heart . .	32	Phthisis ..	108
Bronchitis ..	87	Hooping cough	23	Pneumonia	91
Cholera... ...	1	Hydrocephalus	20	Scarlatina	19
Childbirth ...	.	Influenza	5	Small pox .	8
Convulsions	38	Liver	7	Stomach	[illegible]
Diarrhœa .	14	Lungs .	9	Teething	9
Dropsy .	13	Measles	46	Typhus	33
Erysipelas .	11	Paralysis .	[illegible]	Uterus	

BIRTHS AND DEATHS

	Births	Deaths	Births over Deaths
Males	662	487	175
Females	647	515	132
Total .. .	1309	1002	307

METEOROLOGY OF THE WEEK

Day.	Mean of Barometer.	Mean of Thermometer. Dry	Ditto Dew Point	Difference between the Mean Temperature of the day and the same day on an average of 7 years	General Direction of Wind (A M)	General Direction of Wind (P M)	Amount of Horizontal Movement of the Air (Miles)	Rain in Inches	Electricity *
Sunday ...	29 819	37 2	36 7	− 1 8	S S W & S	S t E & E	5	0 00	A P & tension strong at 10 a.m. Nothing shewn afterwards
Monday . .	30 ·50	37 0	36 5	− 2 0	F S E & E N	N	40	0 12	P & tension moderate
Tuesday ...	29 994	36 7	33 4	− 2 [illegible]		N E	40	0 01	P at 9 p.m. Nothing else during the day
Wednesday	29 818	34 0	30 1	− 5 4	E N E	E	70	0 [illegible]	P & tens on moderate
Thursday ..	29 768	31 9	29 9	− 7 9	S E	S E	60	0 0	P & tension moderate
Friday	29 746	49 4	48 1	+ [illegible]	S E & S S W	S S E & S W	115	0 16	Nothing
Saturday	29 ·47	53 9	50 0	+ 11 4	S W	S W	0	0 051	Nothing
Means ...	29 ·52	40 0	37	− 0 4	Variable		Sum 531	Sum 0 34	

* Instrument Con... A stands for Negative and P for Positive.

MEDICAL NEWS.

Royal College of Surgeons.—The following gentlemen having undergone the necessary examinations for the diploma, were admitted members of the College, at the meeting of the Court of Examiners on the 14th inst.:—Messrs. John Burdett Steward, Birmingham; John Willington Clement, Pocklington, Yorkshire; Charles Augustus James Tompson, St Helen's, Lancashire; Henry Horlock, Newport, Isle of Wight; Crosby Leonard, Bristol; Nathaniel Crisp, Bristol; Edward Akers, Halifax, Yorkshire, Alfred Howse, London; Charles M'Leod Murray, Sudbury, Suffolk, and Daniel Meadows, Witnesham, Suffolk. The following gentlemen were admitted on the 18th inst.—Messrs. Thomas Bolland Powell, Knaresborough, Yorkshire; John Gamm, Hambledon, Hampshire; David Alexander Douglas, Belfast; David Henry Monckton, Brenchley, Kent, Edward Somerset Cleveland, Trichinopoly, Madras; William Bowen Mathias, Dublin; George Hewlett Bailey, London, John Weir Draper Brown, Victualling-yard, Deptford; and Cornelius Hanbury, Stoke Newington

College of Examiners.—At the last meeting of the Council of the Royal College of Surgeons, Mr Cæsar Henry Hawkins, Surgeon to St George's Hospital, was elected a member of the Court of Examiners, in the vacancy occasioned by the decease of Mr John Goldwyer Andrews, of the London Hospital. this election causes a vacancy in the office of Examiner in Surgery at the University of London, hitherto filled by Mr Hawkins The gentlemen appointed Examiners of Candidates for the Fellowship in Mathematics, the Classics, and French, are, we understand, Mr George Gabriel Stokes, M A, Pembroke College, Cambridge, in the former Mr Goldwin Smith, M A, of University College, Oxford, in Classics, and Professor Brasseur, of King's College, London, Examiner in French

Apothecaries' Hall.—Names of Gentlemen who passed their examination in the Science and Practice of Medicine, and received Certificates to practise, on Thursday, 13th Dec, 1849 — Edward Pinder, Sturley Payne, Bury St Edmund's, Robert Gething, Newport, Monmouth, William Harrison, Bedford.

Obituary.—At Hobshill Cruden, on the 22nd, after a short illness, Dr John Mitchell aged 55 On the 1th of October, at Gorruckpore, W R Glennie, M D H E I C S, formerly of Maybank, Aberdeen

Appointment.—Dr R Chambers has been elected Physician to the Dispensary for Consumption and Diseases of the Chest, Margaret street

Supposed Cholera at Lyons.—The cases resembling cholera that appeared at Lyons have not been followed by serious results For many days past not a single case has occurred, and Lyons still maintains its inviolability

The late Dr. Crowther, of Wakefield, has left nearly the whole of his property, about 10 000*l*, to build an infirmary at Wakefield The erection of this building will not take place for some time, in all probability as his widow and his niece enjoy a life interest in the property It is a noble bequest, but we trust that Dr Crowther has no other near relatives in a state of indigence, as such acts are not always pure benevolence, but done to gain posthumous fame, and where that is effected, to the loss of those who are near in blood, the deed is not so commendable as it may appear to be

We understand that a Royal Commission, for inquiring into the best mode of carrying out the Exhibition of Industry of all Nations, in 1851, will shortly be issued, and is likely to consist of heads of parties and interests, members of the present and late Administrations, representatives of agriculture, art, science, mechanics, and manufactures It is proposed, in addition, to nominate any number of Local Commissioners desirable, to represent all interests, both at home and abroad

TO CORRESPONDENTS

We are sorry that our readers should have had reason to complain of the length of time which occasionally intervened between the appearance of the different papers of the various series, which have lately appeared in our Journal In our new volume we propose, among many other improvements, to continue any papers we may undertake to publish, at least every other week, till the whole series is completed

The friend who writes to us upon the subject of Homœopathy may rest assured that we *do* intend, in an early Number of the Journal,—probably in more than one—seriously to consider this crying evil We quite agree with our Correspondent, that the local and ephemeral pamphlets written on the subject are, in circulation, necessarily circumscribed, and, generally speaking, are not written in a style likely to convince the ignorant amongst the non professional community, nor to strengthen in right principles those of our Profession who are wavering, either on account of doubts raised in their minds through the boldness of speech in assertions of the homœopaths, or, as is more often the case, from the loss of patients,—for there is a rich class of persons who have identified themselves with this species of quackery, and who are running hither and thither to convert others to their opinions, while some practitioners are failing in firmness, and are assuming the form of practising *either way*, according to the wish of the patient!" We are disgusted with the bombastic nonsense which is taken in and retailed by persons in that rank of life which should lead us to hope for better things

"A Member of the College of Twenty-eight Years' Standing," calls our attention to the following paragraph, now going the round of the newspapers —"Royal College of Surgeons.—Mr. * * *, after a severe competition of three days' duration, was admitted, on Thursday week, to the fellowship. There were more than twenty candidates," and, he adds, "there can be no great honour in obtaining the fellowship, when such a disgraceful use is made of it" Upon the same subject another correspondent, who signs himself "One who detests quackery in every form and shape," writes, that the "Illustrated News appears to be the favourite vehicle for the announcement of new appointments, with flaming accounts of the great abilities, and other recommendations of the successful candidates" Our correspondent also alludes to the advertisement we have above quoted, and asks us why Mr * * * should be selected for such especial notice from a list of twenty-one gentlemen, who were admitted fellows upon the same occasion Such proceedings are highly derogatory, and whatever may be the 'grits they bring to the mill," while they do not add to the respectability of the parties even in the public estimation, they most assuredly carry with them the condemnation of the profession

"Mr Jackson's" "Questions" shall receive our early consideration

"Mr J T Tweed's" "Description of the Apparatus for Employing the Mechanical Leech shall appear early in our new Volume"

"Dr Balbirnie" is assured that we have no other rule of conduct than that of right We shall shortly have occasion to review the many works upon the subject of his pamphlet and amongst them we shall not forget 'The Philosophy of Epidemic Cholera"

'Dr Thompson' need not for one moment suppose that English surgeons have any feeling of jealousy towards their brethren in Ireland or of the improvements they originate The paper in question has been long in type, waiting for its turn to occupy our columns

We have received Professor Graham's valuable paper "on a New Property of Gases' We shall keep it for a new year's gift to our readers

"Medicus" is thanked for his remarks on Emigration We will immediately review so very important a subject

We trust Mr Walton and our readers will bear with us yet a little while as regards the 8th Lecture on 'Operative Ophthalmic Surgery' We have much matter in type and at the close of the year, and of our present Volume we are unwilling, pending arrangements for certain improvements to increase our stock on hand

Our friend at Birmingham will we think agree with us that the subject has been sufficiently agitated, and that such shabby conduct cannot by any possibility, again occur,—if not from a sense of honour, from very shame

We will make inquiries concerning the papers referred to by Mr King

We have to acknowledge the receipt of Mr Crouch's interesting letter upon the health of the town of Penzance since the subsidence of the epidemic It is a postscript to a former letter which gave an account of the disease which visited Penzance in 1848, and shall receive early insertion

We hope to pay an early visit to the Royal Polytechnic Institution in Regent's street, and will not fail to inspect Mr J D Hailes universal error globe

"Un Chirurgien" is informed that he will have no difficulty in obtaining what he requires through an insurance office and with the security of two friends To oblige a "Steady Supporter" we will if desired, obtain the particulars.

'Dr Sheridan Muspratt's' Work on the Blowpipe will be reviewed in due course We wish we could treble the size of the Medical Times, and comply with the wishes of all friends at once

We are obliged to the Rev J Barlow for his politeness, and will not fail occasionally to attend the weekly evening meetings of the Royal Institution The Session of 1850 promises a rich and successful harvest, and the Lectures of the Dean of Westminster, Professors Brande, Faraday Cowper E Forbes, A C Ramsey, the Astronomer Royal, Sir R J Murchison, and Messrs Barlow and Cowper, cannot fail to attract numerous audiences

"A Subscriber from the Commencement" asks "Has a member of the College of Surgeons the same right to practise generally as a Licentiate of the Apothecaries' Hall, London and which of the two is the legally qualified practitioner, strictly so speaking?"

[A Member of the College of Surgeons is not legally entitled to practise medicine Yet both the Member and Licentiate are legally qualified, the one to practise Surgery, the other generally]

"Felix" writes —"I shall be greatly obliged by your answering me the following query per your next week's 'Medical Times' Can a medical man obtain damages by law for debts contracted by his patients for medical attendance and medicine, such practitioner not having passed either the examination of the College of Surgeons or the Hall?"—Certainly not

ORIGINAL LECTURES.

LECTURES
ON
THE CHEMISTRY OF THE POISONS;
OR, ON
PRACTICAL TOXICOLOGY.
SHOWING THE APPLICATIONS OF CHEMISTRY TO THE DISCOVERY OF CRIME.

By H. LETHEBY, M.B., Lond:
Lecturer on Chemistry at the Medical College of the London Hospital.

LECTURE XI.

Action of Nitric Acid on Organic Substances.—1. On vegetable matters, as sugar, flour, starch, bread, wood, paper, cloth, the vegetable alkalies alcohol, volatile oils, colours, &c. 2. On animal compounds, as strong albumen, weak albumen, dead mucous membrane, the cuticle, woollen fabrics, &c.—The Tests for Nitric Acid. Its Taste—Action on litmus, on iodide of potassium, on metals, on protosulphate of iron, on indigo, on morphia, brucia, &c—Delicacy of these Tests.—Sources of Fallacy, &c.

We proceed to-day, gentlemen, to consider the changes which take place when aqua fortis is poured upon organic substances; and I may premise by saying, that such substances are readily attacked by nitric acid; and that they are thereby either converted into compounds which contain a considerable proportion of this acid, or of some lower oxide of nitrogen, or else they are still further oxydised and reduced to the state of nitric acid, oxalic acid, or carbonic acid. It has been remarked, moreover, that the very strong acid does not act at ordinary temperatures with anything like so much energy on vegetable matters as the weaker ones do; but of this you will have ample evidence as we proceed.

1. ACTION ON NITRIC ACID ON VEGETABLE MATTERS.

(a) *On Saccharine Substances.*—Scarcely any perceptible change takes place when commercial aqua fortis, however strong it may be, is poured upon white or brown sugar, provided that the temperature of the mixture does not exceed 70° of Fahrenheit. We may even, under these circumstances, keep an acid of sp. gr. 1511 upon sugar for several days, without any notable change being effected. If, however, the temperature of the liquid be raised to the boiling point, a violent re action instantly commences, and copious fumes of nitrous acid, and binoxide of nitrogen are evolved. Acids which have a sp. gr. as low as 1200, act in a similar manner; and a like change takes place, although much more slowly, when we employ an acid whose density is no greater than 1040. In all these cases the carbon and hydrogen of the sugar are oxydised, and the organic substance is more or less completely converted into *oxalic acid*—a fact which may be easily demonstrated by neutralizing the residual liquor with ammonia, and then testing it with lime water; upon which there is formed, as you here perceive, an abundant precipitate of oxalate of lime, a compound which is insoluble in acetic acid. Experiment has proved, moreover, that every 100 parts of sugar will, if they are properly supplied with aqua fortis, yield from 50 to 60 parts of oxalic acid.

Acids which are weaker than the last-named, act, however, in a different manner; for, instead of converting the saccharine substance into oxalic acid, they slowly oxydize the sugar and produce a compound which is known by the name of *saccharic or oxalhydric acid;* this compound is recognised by the brown colour which the liquid assumes upon the addition of ammonia. Still weaker solutions of aqua fortis, as for example those which range between 1012 and 1003, convert the sugar, after long boiling, into a brown, insoluble, crystalline substance, called *sacchulmine.*

(b) *Action of Nitric Acid on Flour, Starch, and Bread.*—An acid of sp. gr. 1151 rapidly dissolves flour, and converts it into a thick, yellow, jelly-like mass; that of sp. gr. 1300 acts in a similar manner, though not quite so quickly; and when the density of the acid is reduced to about 1200, it is necessary to wait ten or fifteen minutes before we can perceive the effect referred to. A weaker acid than the last named does not sensibly affect the farina of wheat, unless it is heated upon the powder, and then it resolves the starch of the flour into oxalic, carbonic, and some other acids which have not yet been thoroughly investigated.

Bread is almost instantly made yellow by acids which have a density at or above 1300; and an acid of sp. gr. 1180 will also stain bread, provided it be allowed to act for twelve hours, during which time, in both cases, the bread acquires a soft gummy consistence.

(c) *Action of the Acid on Wood.*—Ordinary nitric acid always darkens wood where it touches it; but this effect is subject to much variation, not only on account of the strength of the acid employed, but also by reason of the nature and quantity of the resin contained in the wood. In the case of common deal, an acid of sp. gr. 1510 instantly oxydizes the resin and produces a deep greenish brown stain. An acid of sp. gr. 1300 requires about one minute for the production of the effect; that of 1090 acts in about two hours, while an acid having the density of 1010 requires a period of twelve hours for the manifestation of a similar effect. In the case of lignum vitæ, a wood which contains a large proportion of resin, (guaicum,) the nitric acid is acted upon with much energy; for, if we employ an acid of the first-named density, the resin of the wood rapidly decomposes it, appropriates its oxygen, and then red fumes of nitrous acid are copiously evolved, which communicate a bright green colour to the surrounding ligneous tissue. An acid having the density of 1300 instantly produces a green tint with lignum vitæ, and in a few minutes the colour passes on to a deep brown, that of sp. gr. 1180, makes the wood green after an interval of three or four minutes, and in ten minutes the wood acquires a brown colour; even the weak acids, as, for example, those whose densities are not greater than 1040, nor less than 1020, act in a similar manner after an interval of a few hours.

(d) *Action of the Acid on Paper and Linen Cloth.*—Long since Pelouze noticed, that when very strong nitric acid, as, for instance, that of sp. gr. 1500 or upwards, is poured upon paper or linen cloth, it instantly converts the organic substance into a tough parchment-like body, which on being washed and dried is remarkably inflammable, for it takes fire at a temperature of 350° Fahrenheit. Acids which have a density below 1400 do not, however, exert any action upon these fabrics, unless they are heated with them, and then, if the acid be not weaker than 1200 the organic substance slowly dissolves, and, by appropriating oxygen, gives rise to the formation of oxalic and other acids.

(e) *Some of the Vegetable Alkalies* are rendered of a deep red colour by strong nitric acid. This is the case with *morphia*, which instantly assumes a scarlet tint, and effervesces with acids whose densities are above 1300. An acid of sp gr. 1180, acts more slowly on this alkaloid, for it takes a couple of minutes to produce a tint of equal intensity; that of sp. gr. 1090 requires ten minutes for the full manifestation of its action; and an acid having a density of 1040 acts only after an interval of an hour or so. *Brucia* is another alkaloid, which is rendered of a deep carmine tint by aqua fortis; so also are the commercial samples of strychnia, in consequence of their being contaminated with a greater or less proportion of brucia. Many chemists have devoted their attention to the changes which take plac when strong nitric acid is poured upon the last-named vegetable principle, and they have done so because it yields a product which is very analogous to, if not identical with, nitrous ether Here, for example, is a portion of brucia, and if I add to it a small quantity of strong nitric acid, you will notice that it effervesces, and that the evolved gas has the odour of the rennet apple. This circumstance first commanded the attention of Gerhardt, who asserted, that the volatile body was nitrous ether, and notwithstanding that this statement has been denied by Liebig, yet it appears, from the more recent investigations of Rosengarten, Laurent, and Baumert, that the assertion of Gerhardt is correct. Baumert has even shown that other oxydizing agents will, in acting upon brucia, produce a compound which has the character of an alcohol. Moreover, Laurent has examined the red compound which is simultaneously produced, and he has named this compound *cacotheline*, and he states that its composition is $C_{42}, H_{22} N_4, O_{20}$. Lastly, I ought to state, that *narcotine* is an alkaloid, which also has the property of being reddened by nitric acids.

(f) *The alcohols and volatile oils* are likewise readily attacked by strong nitric acid, ordinary alcohol being converted into nitrous ether, and the volatile oils into various brown resinous compounds. The acids which have a density above 1400, act upon alcohol at ordinary temperatures, and, besides yielding the ether just mentioned, they produce many other products, among which are binoxide of nitrogen, nitrous acid, carbonic acid, oxalic acid, formic acid, acetic acid, &c. Even the weaker acids will act upon alcohol, if they are heated therewith. Bromeis, Rabourdin, and others, have occupied themselves by studying the changes which take place when nitric acid is poured upon the commonest of the volatile oils, namely, oil of turpentine; and they state, that when strong aqua fortis is added to this liquid, a violent re action takes place, ammonia, binoxide of nitrogen, nitrous acid, oxalic acid, carbonic acid, and many dark coloured resinous compounds being the products of the change. We may notice, moreover, from what is here going on, that an acid having the density of 1200 will, in the course of two or three hours, darken and resinify this volatile oil.

(g) Finally, I ought to state, that *most vegetable colours* are quickly discharged by strong nitric acid; and if it should happen that the ground of the dyed fabric is composed of an animal product, the stain which is left by the acid usually assumes a deep yellow or brownish yellow colour.

2. ACTION OF NITRIC ACID ON ANIMAL SUBSTANCES.

(a) *On Strong Solutions of Albumen.*—The acid of sp. gr. 1500 instantly coagulates white of egg, and converts it into a deep yellow mass; if the acid be in excess, the coagulum is dissolved with slight effervescence; and on pouring the liquid thus formed into water, it occasions, as you perceive, a copious yellowish white precipitate of nitrate of albumen. Acids which have a density as low as 1100, and which contain about 15 per cent. of dry acid, also have the power of converting the white of egg into a firm yellow mass; but you will remark, that, when we employ an acid of the last-named strength, it requires a few minutes for the production of the full yellow tint. If the acid is diluted so as to have a density of 1020, it still coagulates the albumen; but it must be allowed to act for twenty-four hours before it will become coloured, and even after the expiration of that time the coagulum assumes merely a pale sulphur-yellow tint. Acids which are reduced to the density of 1010 still retain their power of coagulating albumen; but the coagulum is white, not very firm, and it requires a period of ten minutes, and a good deal of the acid liquor in order to be made evident. An acid, which has a sp. gr. of 1006 only acts after the expiration of twenty-four hours.

(b) *Action of the Acid on Weaker Solutions of Albumen*, such as serum of blood, and a liquid, made by mixing the white of one egg with an ounce of water. All the acids down to those which contain 87 per cent. of water, and which have a density of 1090, instantly coagulate the albumen of these solutions, and produce a magma, whose colour varies from deep orange to a pale straw yellow, according to the strength of the acid employed. An acid which has a sp gr of 1020, only produces a white coagulum in these solutions; and when the density of the acid is reduced to 1010, it begins to lose its power of coagulating the albumen.

(c) *The surfaces of dead mucous Membranes* are instantly coagulated by acids which have a density above 1180, and should the acid be much stronger than this, it also stains the tissue of a yellow colour directly the acid is brought into contact therewith; the weaker acid of 1180, however, requires a period of fifteen minutes for the manifestation of this action, and if we employ a solution which contains no more than 14 per cent. of free acid, it

will take twenty-four hours for the production of such a stain.

(d) *The cuticle*, like the more delicate membranes of the body, is also stained by aqua fortis. An acid of sp. gr. 1300 colours it in the course of one minute; and, an acid having the density of 1180 renders it of a faint yellow colour after an interval of three minutes; but a weaker acid has not the power of producing this effect, unless it acts upon the tissue for a long time.

(e) *Action of the Acid on Woollen Fabrics*.—When an acid, with the density of 1500 is poured on a piece of flannel, it instantly decomposes the tissue, evolves fumes of nitrous acid, and leaves a pulpy yellow magma, which rapidly dissolves in an excess of the acid. An acid of sp. gr. 1300 also acts upon this fabric, and produces a deep yellow stain; but the tissue, though rotten, is not so completely disorganized. An acid of sp. gr. 1180 yellows it in the course of one minute, and the stain becomes much deeper in five minutes; that of sp. gr. 1100 requires five minutes for the production of a faint yellow spot; and an acid having the density of 1040 only occasions a faintly yellow tint after the lapse of fifteen minutes.

Now, on reviewing the chemical changes which take place when nitric acid is brought into contact with albuminous substances, we perceive that the weak acids merely coagulate them, and form an insoluble nitrate of albumen; the strong acids, however, exert a more powerful action; for they completely disarrange the molecular constitution of these substances, inasmuch as they render them more or less fragile, and produce a yellow compound, which is known by the name of *xanthoproteic acid*. Very recently, M. Van der Pant has inquired into the nature of the reactions which take place when strong nitric acid is poured on albumen, hair, wool, horn, horse's hoofs, fibrine of muscle, cheese, &c., and he concludes that in all these cases the same compound, namely, xanthoproteic acid, is formed. Mulder, also, has directed his attention to this subject, and, in confirming M. Van des Pant's results, he states that this compound consists of proteine in combination with nitrous acid, and that its formula is 2 (C_{36} H_{26} N_4 O_{12}) + NO_3; it is, therefore, a sub-nitrite of proteine.

THE TESTS FOR NITRIC ACID.

(a). *Its acid taste* is strongly marked, even when the solution does not contain more than three-tenths per cent. of free acid; but when more dilute than this, it gradually becomes indistinct, and when the liquid is diluted so as to contain only one-tenth per cent. of the acid, the sour taste is altogether lost.

(b). *Its faculty of reddening litmus* I have already referred to, and showed that it begins to fail when the solution contains only two-tenths per cent. of free acid.

(c). *Its action on iodide of potassium* is a very delicate test, for as all the commercial samples of aqua fortis contain nitrous acid, they have the power of decomposing this salt and of liberating iodine. This property may be made evident in several ways; we may exhibit it, for example, by dropping a crystal of the iodide into a nitric acid solution; and then, as you here perceive, the liquid becomes yellow, or even red, from the presence of free iodine. Again, it may be made manifest by means of a test paper, impregnated with a little boiled starch and iodide of potassium; such a paper being rendered of a deep blue colour by the acid in question. And with regard to the delicacy of the latter test, I may state that the coloration is very complete when we employ a solution which contains no more than 3 per cent. of free acid. This, however, is not the limit of its delicacy, for a liquid which contains only 1 per cent. of the acid will re-act upon the paper after an interval of a few minutes.

(d). *Its action on the metals* is very peculiar and characteristic, for when nitric acid of ordinary strength is poured upon zinc or copper, the acid is decomposed with the evolution of red fumes, a character which is not exhibited by any other compound. In performing this experiment it is better, perhaps, to make use of the latter metal, which not only has the power of decomposing the acid in the way just mentioned, but it also has the power of communicating to the liquor a deep blue colour, which may be still further heightened by a solution of ammonia. Those liquids which contain about 12 per cent. of free acid do not act very readily on copper at ordinary temperatures; but, if the liquid be heated, red fumes are evolved, even when the solution does not contain more than 7 per cent. of the acid; and, if we note the blue colour produced, we may get evidence of a chemical action when the liquid contains only 2 per cent. of free acid. Relying upon these re-actions, we may show that 50 drops of a liquid, containing 3·5 grains of nitric acid, will give rise to orange coloured fumes when they are heated upon copper filings; and that a similar quantity of fluid, containing only one grain of free acid, will acquire a distinct blue colour under similar circumstances. We may, however, by taking advantage of a discovery made by Priestley, namely, that these orange coloured fumes have the power of communicating a deep olive brown tint to a solution of green vitriol, exhibit the re actions of copper on nitric acid in a still more satisfactory manner; for if we take 50 drops of a liquid which contains only half a grain of this acid, and boil a few grains of copper filings, the evolved vapour will communicate a brown colour to a solution of protosulphate of iron. In order to perceive this re-action under the most favourable circumstances, it is advisable to make use of an apparatus of the following description.



(*a*) A test tube, containing the copper filings and acid liquor.

(*b*) a bent tube, containing four or five drops of a saturated solution of proposulphate of iron. The tube has two enlargements, viz., at *c* and *d*, for the purpose of preventing the iron liquor from being blown out during the operation.

On boiling the liquid in the tube (*a*) its vapour is made to pass through the solution (*b*), and so to produce the brown colouration to which I have referred. It is proper to state, moreover, that the addition of a little oil of vitriol to the liquid contained in the test tube, will favour the result by effecting a more intense colouration.

(*e*) *Its action on a solution of protosulphate of iron or green vitriol* has been still further employed by M. Derbenais de Richmont, who has made it available, in a very ingenious manner, to the recognition of free nitric acid. He takes a portion of the suspected liquid and dilutes it with its own bulk of concentrated sulphuric acid; when the mixture has cooled a little, he carefully adds a small quantity of a saturated solution of green vitriol, taking care that the latter is poured in so as to float on the former. Should the suspected liquid contain nitric acid, a distinct olive brown or pinkish line will appear at the point where the two solutions touch. Derbenais states, that this test is capable of discovering the presence of the 1-21000th of free nitric acid in any liquid; and Jacquelain, who has since inquired into its merits, asserts, that it will detect the one-millionth part of nitric acid in any solution. To show you that it is a very delicate test, I will take 25 minims of a solution which contains six parts of nitric acid in 10,000 of water, and mix them with 20 minims of concentrated sulphuric acid, after which I will add 10 minims of a solution of green vitriol, and in the course of a few minutes an olive brown line will make its appearance along the level where the two liquids touch. Here, therefore, I have made evident the presence of the 15-1000th of a grain of nitric acid; and I make no doubt, from the intensity of the colour produced that I could go still further with the dilution, and still get evidence of the re-action upon which the value of the test depends. It is scarcely necessary, however, in a medico-legal point of view, to proceed beyond this point of dilution.

(f) *The Indigo test*, as it is termed, was suggested by Liebig. It is founded on the property which commercial nitric acid has of decolourising a solution of sulphate of indigo. In performing the experiment, you are to take a portion of the suspected liquid and pour it into about half its bulk of oil of vitriol, which has been coloured blue by a little of the test liquor; in most cases the colour is immediately discharged; sometimes, however, it is necessary to apply heat to the mixture before the bleaching effect is fully manifested. Liebig states that this test is effective when the liquid contains no more than the 4 100th part of nitric acid; and he affirms that, by adding a grain or two of common salt to the suspected liquor, before it is mixed with the oil of vitriol, it is possible to discover the presence of the 5-100th part of nitric acid. But you shall judge for yourselves concerning the delicacy of the test. Here is a liquid which contains 2-10ths per cent. of nitric acid. I will employ 50 minims of it, and add to it 25 minims of the blue sulphuric acid. Upon applying heat, the colour is rapidly discharged, so that I have, by this means, discovered the presence of the one-tenth of a grain of nitric acid. Strong solutions of nitric acid, as, for example, those which have a density above 1300, decolourise the indigo without the application of heat.

(g) *The morphia test* was proposed by Dr. O'Shaughnessy in 1829; and it is dependent on the property which nitric acid possesses of communicating to this alkaloid a deep red tint, which rapidly passes into orange. As I have already said, a solution which contains less than 7 per cent. of real acid, will not, under ordinary circumstances, exhibit this re-action; but, it may be made evident with much weaker solutions, provided we acidulate them with strong oil of vitriol. Here, for example, is a liquid which contains no more than 2-10ths per cent. of free nitric acid; and, if I take twenty minims of such a liquid, and mix it with half its bulk of sulphuric acid, and then introduce a little morphia on the end of a glass rod, you will observe that it instantly produces an orange-yellow tint. If the solution contain a larger proportion of nitric acid, the colouration is still more marked, but it is also more transient; for a liquid which contains no more than 3 per cent. of nitric acid, rapidly decomposes the morphia with effervescence, and produces an almost instantaneous colouration. This test, therefore, offers a ready means of detecting the acid in weak solutions of it; and, as you have just seen, it is capable of discovering the presence of the 4-100th of a grain of nitric acid.

(*h*) *The brucia test*, as it is named, is by far the most delicate of all the tests for free nitric acid. It was advanced by Berthomot in the year 1841, and like the last, it is founded on a property which I have already exhibited to you. Ordinary solutions of nitric acid, will not colour brucia when they are diluted, so as to contain less than 7 per cent. of real acid; but, if we adopt the mode of operating just mentioned, it is possible to detect the acid in extremely dilute solutions. Here, for instance, is a liquid which contains only 1 grain of nitric acid in 300 grains of water, and if I take 20 minims of this liquid, mix it with 10 of oil of vitriol, and then introduce a small portion of brucia, you will notice that a deep rose or carmine tint is instantly produced. We have, therefore, here recognised the presence of a little less than the 7-1000th of a grain of acid. As in the last case, moreover, the colouration is most evident when we employ dilute solutions; for, if we make use of a liquid which contains 3 per cent. of acid, the colouration is for a moment very marked, but it is transient; and, as you will notice, the brucia is decomposed with effervescence. With these evidences before you, you will, doubtless, be surprised to hear the following remark from Mr. Taylor, "According to the same authority (Orfila) the sulphate of brucia is even more sensitive, the alkaloid acquiring a blood-red colour under the same circumstances; but I do not find the result to be so satisfactory. * * The

objections to the test are, that change of colour does not occur with diluted nitric acid."

(i) Other tests have been proposed for the recognition of this alkaloid. Orfila, for instance, states that narcotine is coloured red by this acid. Jacquelin, however, has shown that oil of vitriol will of itself produce a similar effect. Schoenbein states, that a mixture of nitric and sulphuric acids will rapidly oxydise sulphur, and evolve the vapours of sulphurous acid, which are easily recognised by means of paper impregnated with starch and iodic acid. He says also, 'this test will exhibit the presence of one drop of nitric acid in two ounces of oil of vitriol. Again, Mr. Balmain, the assistant of the late Dr. Turner, having noticed that the hydrogen, which is generated in a liquid containing a small portion of nitric acid, burns with a peculiar greenish white flame, has proposed that this character should be employed as a means of detecting nitric acid.

Other chemists have spoken favourably of the gold or aqua regia test, as a means of recognising the presence of this acid; but, however valuable these several re-actions may be in a philosophical point of view, I do not think that they are of any importance to you as medical-jurists; I shall not, therefore, occupy your time by discussing them.

Lastly, before I leave the subject of the tests for nitric acid, I ought to guard you against the *fallacies which are connected with these several re actions.*

In the first place, sulphuric acid frequently contains a notable proportion of nitric acid, and to avoid this, which is a serious source of fallacy, the oil of vitriol must be tested in all cases, before we employ it as a re agent. I may also mention to you, that the presence of nitric acid in oil of vitriol may be easily guarded against, by previously heating the acid with a few grains of sulphur.

Again, it has been noticed, that the chlorates, bromates, and iodates will, under many circumstances, act in a manner precisely similar to the acid in question. This, as has been remarked by Dr. Birkbeck Nevins, is especially the case with regard to morphia and brucia; but, when you bear in mind that these fallacious compounds are not by any means common substances, that they are not at all likely to gain access to the human body, or, in fact, to be found out of the laboratory of the chemist, I think that you will not attach any very great importance to them as sources of error. Independent of this, however, I may tell you, that the fallacy is easily laid bare by the employment of a little oil of vitriol; for, in the case of a chlorate, the salt is turned of a blood red colour, and its solution becomes greenish yellow, evolving an unmistakeable odour of chlorine, when sulphuric acid is added to it; and should we have met with an iodate or bromate in the suspected liquid, it is decomposed when it is heated with oil of vitriol, and liberates the fumes of iodine or bromine, which cannot well be mistaken.

ORIGINAL CONTRIBUTIONS.

ON CHOLERA.

By WILLIAM HALL, M.D.,
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It appears to me, that the great diversity of opinion regarding the nature and treatment of cholera arises from the Profession not being agreed as to the meaning of terms; from not defining exactly what we mean by cholera, and what is essential to constitute the disease, and also from not sufficiently distinguishing between two most opposite conditions of the system, viz., the active resistance opposed by the powers of life to the cause of disease which we term fever and inflammation, as contrasted with that paralysed condition of the circulation, and complete yielding of the vital powers to the morbific agency, which we observe in cholera. The object of my Lectures was, to inquire whether anything peculiar is invariably manifested in every one of the different forms that Asiatic cholera assumes, such as we might consider to be essential; and this inquiry seemed to show, that there is one thing constant, and without which no disease can justly be regarded as cholera, however varied the other symptoms, viz., loss or diminution of those vital properties of the capillary circulation by which the blood is preserved fluid, and prevented from adhering to the interior of blood-vessels,—by which those re-actions between the blood and tissues are performed which are necessary to life, and of which the evolution of animal heat is one important result.

In genuine, unmixed cholera, this want of vital action in the smaller blood-vessels was pointed to as the first effect of the epidemic influence on the body, both in point of time and importance, and as preceding every other symptom. The effect of this condition of the vessels of the extremities is contraction of the veins, which causes an exudation of cold fluid on the skin, and forces the blood into the great interior veins of the chest and abdomen, whence it cannot return, on account of the valves of the exterior veins; but the same state of the vessels exists in the lungs, which prevents the blood being purified by sufficient contact with the air, and is furnished to the body by the arteries in small quantity, and in a condition unfit long to maintain life. Being thus forced inwards from the limbs, and prevented passing through the lungs with freedom, the blood accumulates in the great veins, and would choke the action of the heart, if it did not find vent somewhere; but these veins, being without valves, allow it to be forced back to their terminations on the intestines, and there, when pressed by the continued influx, its more fluid parts are gradually filtered through the membranes, and then gush from the bowels in a sudden torrent of serous purging. The evacuations are without bile, because the circulation through the liver, by which bile is secreted, is stopped or reversed; and no urine is secreted, because blood is unable to pass through the vessels of the kidneys in opposition to this retrograde force. Such was considered to be the condition presented by pure primary or congestive cholera; but of this we have had comparatively few cases here,—for hitherto the influence of cholera has not often been sufficiently powerful to produce its pure effects, till the powers of life have been previously reduced by another cause presently to be mentioned. Still, a few cases of this nature occasionally present themselves, and the symptoms are, perfectly clean, pale, and cold tongue; hands and feet cold and damp, and the nails blue, before or along with the first purging,—if, indeed, purging or vomiting occur at all, which are often wanting in this form; the urine ceases from the first; there is pain and oppression, and intolerance of pressure, at the pit of the stomach; cramps in the belly and legs; a peculiar struggling action of the heart; and, if there be purging and vomiting, it is copious, and of fluid resembling water in which rice has been boiled, inodorous, or only smelling faintly like blood. In such cases, I have never yet found the treatment by quinine and iron, bloodletting, &c., recommended in my Lectures, fail, if used before the feet had become warm while the body remained cold. But the disease which is at present so fatal throughout the country, is not, once in a hundred cases, of this unmixed congestive character. It is either, in the first instance, epidemic dysentery, which is variously called English cholera, or autumnal diarrhœa, a non-contagious malady; or it is the same disease in combination with putrid fever, which is most virulently contagious, and well known as the putrid dysentery of our cellar-population, which sometimes takes the place of putrid fever when epidemic dysentery prevails. Now, the occult causes, atmospheric or other, by which those distinct diseases, epidemic dysentery and epidemic cholera, are produced, unfortunately, co exist at *present* in the country; of these, the cause of dysentery has, of late, been more universal and more powerful than that of cholera, attacking the population violently, in many places, without any case of collapse,—that is, cessation of vital action in the blood-vessels,—following; and in most places where cholera has appeared this autumn, the dysentery has preceded it by two or three weeks, without being followed by collapse. During the last four years, when we were free from cholera, the same disease has paid us an annual visit; last year, and the year before, very severely, without any of the cases lapsing into cholera. The weekly Bills of Mortality are themselves evidence, that diarrhœa, though, to a certain degree, premonitory, is not a stage of cholera; otherwise, how could so many die without becoming subject to collapse? We can conceive *recovery* from an incipient stage, but not *death*, without the actual access of the disease. But, when the cause of cholera exists along with that of dysentery, no sooner is a person attacked with purging, and his strength is thereby reduced, than the vital powers that had previously sufficed to resist the effect of the choleraic influence, yield to it, and the patient falls into collapse; the active condition of the vessels that exists in acute dysentery then stops, and more or less complete cessation of vital action takes place in all the smaller vessels. If, then, dysentery, in its simple, non-contagious form, is capable of producing this effect, much more will this be the case, when it is combined with a cause so opposed to life as putrefaction. Careful study and inquiry, both here and elsewhere, have so convinced me, that this combination of epidemic with putrid disease has been by far the most frequent forerunner of fatal cholera this autumn, that I have no hesitation in stating my belief, that almost every case reported as cholera, which has occurred in the purlieus of our towns, ill-drained houses, crowded lodgings, schools, and poor-houses, has been of this nature, before collapse began. The symptoms are as follows:—

Easy vomiting and purging (without much griping) of watery mucous fluid, slightly tinged with bile, and of a decidedly putrid odour, differing much in appearance, but still more in smell, from the true rice-water exudation—each motion is accompanied with passage of urine, the tongue is red, warm, and furred in the centre, the extremities warm, and the nails, though dark coloured, as in hepatic affections, are brownish, rather than of the blue colour observed in congestive cholera after the commencement of purging. When this has gone on for some time, it may be an hour or two, without one symptom which any one conversant with the congestive form of disease would recognise as cholera, a change occurs, for as yet it has not been cholera, but really the reverse, being a state of greatly increased activity of the secreting vessels of the intestines, instead of cessation of secretion—an excitement of their vital action that in every respect resembles that produced by the absorption of croton oil or jalap, resulting in active purging of watery mucous secretions instead of passive serous exudations. This very soon reduces the vital powers almost to syncope, and then the superimposition of cholera may be seen most marked, by commencing in the extremities. The limbs become cold, blue, and like wet leather to the touch, urine ceases to be secreted, and the discharges, though they retain much of their putrid odour, lose their excrementitious smell, and become serous instead of mucous, but the breathing is almost natural, and there is none of the struggling action in the heart remarkable in congestive cholera, because the sudden change from over excitement to loss of action in the vessels of the intestines, appears so complete as to render them incapable of opposing any resistance to the revulsion of the blood, now driven into them from the extremities. The fluid of this blood is drained off so readily into the bowels, that no congestion or distension of the veins takes place sufficient to disturb and excite the action of the heart, secretion passes almost instantaneously into exudation, and the discharges run in an almost constant stream into the bed-cloths. Such is the collapse which succeeds putrid dysentery. As there is little congestion, the cramps are slight and little painful.* The feet of the patient, sunk in this hopeless state, begin to become warm long before death, which, in the congestive disease, seldom occurs more than twenty minutes before the final struggle. By-and bye, decided warmth is perceived in the hams; the arms then lose much of their chilly.

moisture, sudden slight convulsion ensues, and the patient is dead. The body only slightly regains its warmth after death, whereas, after congestive cholera it becomes almost as warm an hour after dissolution as the natural healthy skin in life. The cause of death in the two cases is different —in the one the patient dies asphyxiated from want of arterial, and the circulation of venous blood in the system; and from overpowering congestion of the great veins and vital organs, this often terminates in fearful convulsions. In the other, death results more from general loss of blood, or, what is the same thing, of its fluids, and from consequent gradual exhaustion. It is evident, if the two conditions here described, both of which are termed cholera, differ so essentially, that the treatment must equally differ. In the primary disease, to relieve congestion, and restore the powers of the blood vessels, is the great object in attempting cure. In that which succeeds to dysentery there is no congestion to relieve; instead of blood filling the great veins almost to bursting, and the heart struggling with an oppressive load of blood, its action is here feeble and hæmorrhagic, and the body is so rapidly drained of its vital current that the power of reaction is generally gone by the time the collapse begins. In the first the purging is a mechanical effect and a natural mode of relief to congestion, and ceases as soon as congestion has been relieved and the circulation restored; but, in the other, purging is the principal part of the disease, and if the patient be restored from the condition of collapse thus induced, the dysentery renews its course, and is only changed again from passive exudation to its former activity of secretion. Instead, then, of exerting ourselves to excite the activity of the capillary circulation in the dysentery which leads on to cholera, we must employ every means in our power to subdue excessive action, lest the powers of life should be so reduced by this active overpurging as to bring the system under the influence of the cause of cholera. This compound disease, then, must be treated as dysentery, wholly independently of its tendency to terminate in cholera, and this must be pursued as far as possible, even after collapse has commenced; for should we succeed in rousing the patient from collapse the previous active purging returns along with restoration of the functions of the vessels. The treatment that has appeared to me the most effectual in producing the desired effect int his disease, has been the frequent repetition of emetics of ipecac. and tartar emetic, or a large dose of calomel mixed with a grain of tartar emetic, aided by frequent injections of acetate of lead and opium, sinapisms, warmth, &c., and constant persistence in the use of emetics is the only means by which I have seen patients permanently recovered from the stage of decided collapse in this form of the disease. I am inclined to believe that bilious disorder is the cause of the almost universally prevailing diarrhœa produced by some effect of the epidemic cause upon the liver; the motions remain long clay-coloured in almost all affected, whether severely or slightly, until restored to a more natural condition by a smart mercurial purge or alterative treatment; and with regard to the treatment of acute dysentery, I have met with no essay so practically excellent as that contained in Mr. Twining's work on the "Diseases of Bengal." According to my experience, the appearance of the tongue affords the most unerring signs of the treatment to be pursued, and the most useful symptoms in distinguishing how far diarrhœa depends on dysenteric irritation, or on venous congestion. If cholera be in the neighbourhood, and the tongue be clean, pale, and bloodless, cessation of diarrhœa and uneasiness will almost invariably follow the administration of a few drops of muriated tincture of iron, and two grains of quinine; but if the tongue be red, it will be attended with the opposite effect. When simple dysentery merges into collapse, the tongue often becomes quite clean and pale, and the chalybeate is then highly necessary to begin with; but if some pale mucus or fur remain attached to the centre of the tongue during the collapse, and it be not quite bloodless, we may be pretty confident that we shall find the evacuations putrid; and no advantage is to be expected from the chalybeate in that case. To conclude, I would state it as my opinion, that the cases of primary Asiatic cholera have of late been comparatively rare; that the disease so prevalent since the beginning of August has been a species of English cholera or Dysentery, dependent on disorder of the bilious secretions, which are thus rendered drastically purgative instead of gently aperient, as in health; that this is frequently united with the causes of putrid dysentery or fever; in other words, with the effects which putrid particles, absorbed into the blood, produce on the fluids of the body; but more especially on the intestinal mucus altered by dysentery; that the disease then becomes much aggravated, the symptoms such as have been described above, and highly contagious; that epidemic dysentery, with or without this putrid character, exists generally throughout the country, whereas the cause of epidemic cholera is not so universally spread; but that where the two co-exist, the former acts as a powerful predisponent to the latter; that previous to August, the cause of cholera existed in many places, independently of that of dysentery, and frequently produced the true primary disease; but that since that period, the great majority of cases of collapse have been induced by the predisposing dysenteric derangement, without which the cause would have been insufficient to produce its effects on any large proportion of the population. Now, with regard to the fungous animalculæ, and other popular theories, these appear to me all effects of a pervading cause, whatever that may be, which is generally observed to attend the presence of cholera,—viz., a greatly increased tendency to every kind of decomposition of organic matters. This was noticed in Mr. Whitbread's brewery, in 1833, during the week that cholera was at its height in London; for porter then fermented in a third less time than usual. Putrefaction in water increases the production of fungi sporules and animalculæ, and I am inclined to believe that the evacuations of cholera patients in which the sporules described have been discovered, have been from those labouring under the putrid form of disease above described, and not from the primary disease, or even from those in whom collapse was preceded by simple dysentery. There exist, I think, good reasons for believing that active putrid particles applied to the mucus of the intestines in life, especially if altered in its character by dysentery, are capable of very rapidly converting that mucus to the state of a putrid irritant, and that, in fact, these theories of the cause of cholera are the result of a very common error,—that of mistaking physical effects for causes.

Manchester, October, 1849.

CONTINENTAL MEDICINE.

By Dr. KIDD.

(Continued.)

The late fearful plague having now entirely disappeared from France and Germany, men begin to look back at the abysm over which they have, as it were, by a miracle escaped. Every one, too, has his own experiences to relate, his own grain of sand to add to the mountain of opinion growing up, so that here, as well as in England, it is a matter of no little difficulty to get at any leading or general principles. In the matter of treatment our French friends, too, have been quite as much at fault; and on the simple subject of contagiousness or the opposite, no two people can be got to agree.

The appaling mortality of the disease here has been more than once pointed out. Taking at hazard one of the last returns, we find that of 10,752 attacked, 5,937 had died! The lowest rate of mortality has been this dreadful 50 per cent. that I pointed out before in Ireland. In one of the immense establishments I visited, *Salpetrière*, with its labyrinth of wards and old people, it amounted to 76 per cent., and in many of the other hospitals it was scarcely less destructive. The total numbers have been yet scarcely well ascertained; when they do, they will add, no doubt, an additional puzzle to the already desperate array of statistics which is every day furnished us.

Some India reports of the former so-called dreadful epidemic of 1830, in that country, contrast curiously with figures at home at present. The army in India, according to Annesley, were attacked in the following proportion:—Of Europeans, 2287 were attacked, of whom only 425 died—something about 18 per cent. Of natives (and these figures are nearly the same as the Paris ones that I have accidentally just taken), 10,885, of which 2986 died, only 27 per cent. In Russia there were about the same period 3590 cases, 865 deaths, in all a manifest smaller rate of mortality than in the late visitation.

With these figures, let us compare this frightful 76 *per cent.* in one of the best-managed Hospitals in Paris, with the results in Russia during the late epidemic,—at St. Petersburgh, 17,742 cases, 10,138 deaths; remaining sick, 1986; mortality, *about 57 per cent.* At Moscow, 9754 cases, 4309 deaths —something the same. In Moldavia, 10,000 persons died; almost every one seized. In several other places it is scarcely necessary to cite, the same wide and wasting destruction of life occurring. I have been reading De Foe's account of the plague in London; the scenes lately in the parts of Paris rendered classic by Victor Hugo and Eugene Sue, where Fleur de Marie and Esmeralda plied their miserable trades, the streets about Notre Dame excelled, if possible, in multiplied horrors, this dreadful recital, 700 dying by the day; every one almost seized. Paris, in fact, like what we read it was in the Middle Ages.

Whether this increased mortality may be one of those things that, like Tubercle or Cancer, follow in the wake of civilized life, is, perhaps, a question of no little interest to determine; or that, like Variola and cognate affections with which Cholera has been of late, with no little show of reason, associated, the virus of the disease may not undergo changes in character, from assimilation of other morbid products, is more than doubtful. The entire question is one of the most difficult that can present itself to the mind. We must not, however, give it up in despair. Facts and observations crowd on us on every side. A dreadful battle has been fought, the smoke now clears away, and its history must be written.

The comparison of the Cholera in the year just passed and that in '32 has been so often made, we may, perhaps, rest satisfied with the fact, that this time it has been more fatal. In the former visitation, 31,000 died in England and Scotland; in '49, already nearly 50,000. In 1832, in London, 5275 were taken off; in the present year, need I say, nearly three times that number. We are too fond, perhaps, of going back for hideous tales, and tracing the destroying influence to the swampy marshes of the Ganges,—to 1817, when it sprung into new life in India,—to 1793, when it arose among the pilgrims of Hurdwar,—and back still further, into the questionable twilight of antiquity,—neglecting the facts before us, and those appalling lessons which the past twelve months have revealed. Twenty thousand of those about us in London swept away; twenty thousand in Paris; the ever-increasing tide of population for once turned back; the mortality in the swampy, low-lying districts on the South side of the Thames actually three times that on the North,—two-thirds of this appalling number, therefore, due to ourselves.

Of the essential nature of the disease, of course, as well as its communicability, opinions in every possible way vary on the Continent. The blood and various secretions have been examined over and over again; our imaginative neighbours are wont to represent the different secretions as merely the prismatic changes of the blood; and if the latter be really disordered, as Dr. Stevens would have it, that changes in the secretions, rice-water discharges, &c., are merely secondary phenomena,—that if the wonderful physiological life of the blood is at an end, the drain away of its watery parts into the intestine, and the coagulation of its fibrine in the larger vessels about the heart, are merely necessary consequences, that all our attention should of course be directed towards the disease in its earlier stages, and that when this change takes place in the vital current, all is over; though tinged a little with the good old dynamism

of Stahl (our friends on the Continent are ever among their musty chronicles), this opinion perhaps, as much as any other, brings us towards the true road for studying the disease. That the contagious or non-contagious character of the malady may depend on the character of the different *excreta* thrown off from the body will appear also not so impossible. That an epidemic constitution of the atmosphere is at work at the same time, overlying, as it were, in its results, these and the ordinary phenomena of contagion, is also not to be forgotten; indeed, the majority of the phenomena of cholera-diffusion point to this perhaps alone; hence the errors we have been led into.

As in England, numberless observations in France point to the non-contagiousness of the disease, in the ordinary sense of the term, to its arising from a particular specific constitution of the atmosphere, which M. Andraud and others still think of an electrical character, and its fearful increase in the rate of those attacked, according as the epidemic wave passes along. About the 5th of June last, when cholera was in its zenith in Paris, the diminution of the electricity of the atmosphere was quite remarkable; on the 7th totally gone. This, Andraud says, was the turning of the tide! On the 8th a storm occurred; the electricity of the atmosphere was restored, and went on increasing.

I am quite aware of Quetelet's observations on this subject; and if, as he states, and states truly, the electricity of the atmosphere is ordinarily three times as energetic in January as June; more marked in a strong and clear sky, and almost always of a positive kind, it does not lead at once to the conclusion, that these changes have nothing whatever to do with the disease in question; that there is some connexion, not yet understood or studied, there can be little doubt. What it is will, perhaps, dawn on us, like the truth about contagion, after patient and diligent research. The dynamic electricity of the needle too—who would have thought it?—differs from this static electricity of the atmosphere, so that we must, in all researches of the kind, go to work correctly.

Some curious facts, in opposition to the old opinion, that the disease is due to telluric influences and cannot arise, for instance, at sea, have been observed in France; and, if not coincidences are exceedingly interesting. A vessel left Havre for New York—no cholera at the former. When she was 15 days at sea it broke out. Another vessel left a little after, and when she got to the same latitude and longitude the same thing occurred—the two vessels coming into the same *equally infecting* condition of atmosphere—we want a word—*iso-endemic*, perhaps. The two vessels, under the same predisposing conditions, with a contingent of wretched German and French emigrants on board happening to meet the epidemic wave travelling from Europe to the New World, or, increased in power, coming from the land. As to this epidemic wave, indeed, there is no doubt. In India, I need scarcely say, when the disease first appeared it spread with terrific rapidity *up* the Ganges, and could be traced *up* the Jumna without crossing either; it was never known to go across the tops of the high hills forming the boundaries of the catchment-basin of these immense rivers, in its thirteen years travelling to England; it could be observed, day by day, getting along, as a general rule, in the same way, in the route of the most populous districts, along rivers and valleys, giving some false countenance to the opinion of contagion. In France and Germany, with one or two apparent exceptions, the same thing has occurred. In Hanover, for instance, we are told, the people escaped; though, when I was there some time since, they seemed as intent on their bad sausages and sour wines as ever. This yet remains to be inquired into.

The examination of the secretions in cholera—a thing about which one would think there could be no difference of opinion, has exercised the ingenuity of the chemists of both countries. The characters of the discharge from the kidneys, for instance, has created considerable discussion in Paris. From the total inversion of the process—its complete suspension in many cases—this is not to be wondered at. The presence of phosphates and oxalates in the bowels, was not wanted to tell the practitioner how much at fault this essential part of the economy is, in common with the rest of the splanchnic arrangement. As to the presence of *albumen*, Bouchet one time found it in 23 cases, Levy in not less than 50, at La Pitie. Becquerel also detected it, and this while the *extractive* products of the blood were also increased. In no other way can we account for those appalling cases every one has seen, where the surface becomes blue,—the pulse at the wrist, as I have often felt it, like a vessel filled with air,—a true "artery," undulating under the finger,—the venous system evidently gorged by a clot in some large vessel,—the entire vitality of the blood, as it were, annihilated. *Fibrine*, too, has been found, and *fatty matters*,—everything, in fact, that ordinarily finds its way into the circulation, without the power, in this instance, of getting out again; its vitality destroyed; the functions of the glands of the abdomen at an end,—the whole arrangement of the solar plexus, in fact, diseased.

Simon and Heller found the urine in cholera patients thick, sedimentous, acid, with a sp. gravity ranging between 1·011 and 1·018, with the important change of nearly an entire absence of urea. This, too, perhaps, is not difficult to account for, when we remember the elements of this latter body form themselves in the capillary system, and are further combined in the kidney, whose organic nerves are also incapable of performing their normal function. Wittstock found the urine pale—neuter; sp. gravity 1·008, with ammoniaco magnesian phosphates; and Vogel of the same density, acid, the sulphates in excess, the other salts deficient. The specimens operated on in these instances, I am inclined to think, were not from true cholera patients.

The results arrived at differ very little, perhaps, from those in England; those of Garrod and those of Parkes, for instance, except what our neighbours call coagulated albumen, we call fibrine and mucus. In all such analyses it strikes me, however, *quantity* is the main point, as I believe the true organic character of the blood is destroyed.

Of the exact proportion of those seized with the disease that recovered, perhaps the return from Bartholomew's is a fair exponent: 478 cases were received; 279 recovered. Cases of relapse have been much more frequent, too, than in the East. Indeed, so generally has this character of the disease been observed, that there are not wanting those who look upon it as a fever of a very bad type, of a remittent character, increased by malarious influences. Some men in France look on the Plague of the 14th century as one of the first visits of the disease; others, as not contagious, but strictly infectious; while many would seem to think it one of those frightful things we shall never understand,—a disease beginning, as I think Majendie once said, where all other diseases end—*with death*.

PROGRESS OF MEDICAL SCIENCE.

FRANCE.

(From our Paris Correspondent.)

IS TYPHOID FEVER CONTAGIOUS?

The highly important Papers on typhoid and typhus fever, from the pen of Dr. Jenner, which have recently appeared in your Journal, have attracted much attention here, where typhoid fever is so frequently the subject of debate. The Academy of Medicine had made the "contagious or non-contagious nature" of this disease, the subject of one of its annual prizes, and received seventeen competing Memoirs, which were submitted to a Committee composed of Louis Chomel, Bricheteau, and Gaultier. Of these seventeen Memoirs, four were in favour of non-contagion, thirteen for contagion; and this latter opinion is that of the Commission. It is remarkable that the school of Broussais, once so flourishing in this country, had only a single representative amongst the candidates. As a follower of the *gastro-enterite* theory, he, of course, was a non-contagionist.

Laying aside the etymological signification of the term "*contagiare*," the authors of the different memoirs recognize a contagious element in every possible mode of the transmission of typhoid fever from one individual to another. Thus, while they prove by indubitable examples that an individual labouring under typhoid may communicate the disease to others in a locality where the fever did not previously exist, they regard it necessary that a deleterious atmosphere, capable of infecting those constantly exposed to it, should be formed round the individual who propagates the disease.

The Academy, at its last meeting, appointed M. Bricheteau President, and M. Orfila Vice-President, for the ensuing year.

CONTRACTILITY OF THE SPLEEN.

Some interesting experiments on this subject have been recently performed by the Biological Society, at the request of M. Rayer.

From the researches of M. Kolliker, and, before him, of many other physiologists, we know that muscular tissue is composed of a series of elongated cellules, with an elongated nucleus running parallel to that of the cellule. The same Author has also described this arrangement in many organs, or parts of organs, where muscular tissue had not been thought to exist. He has found them, for example, in the nipple and its areola,—in the arteries, veins, lymphatics, in the Fallopian tubes, in the spleen, &c. Now, if these cellules were really of a muscular nature, it is evident that they must be contractile. M. Wagner has submitted this to the test of experiment, and found that the spleen contracted, evidently under the influence of galvanism. Indeed, M. Defermon had previously directed attention to the singular contortions of this organ produced by strychnine. The experiments performed at the suggestion of M. Royer, and relative to this interesting question, were made on dogs. One of these animals was poisoned with strychnine, the spleen having been first exposed. The organ was carefully measured, and, when the convulsions appeared, it was measured again. The volume of the organ was very slightly diminished,—not more so than might be accounted for by difference of circulation; but the surface of the organ had evidently undergone a remarkable change. It was crisped, and the edges had assumed another form. This experiment was not very conclusive. The spleen of another dog was, therefore, exposed and measured, after which a strong electrical current was directed on it. After a few minutes the long diameter had diminished by two or three centimetres. The experiment was repeated several times with the same results. On passing the current *across* the organ, its transverse diameter became diminished. The pedicle of the spleen was now cut across, and it was suspended by its larger end from one of the conductors of the machine. On applying the other wire, which was done more than twenty times, the spleen was seen to ascend, and to become twisted in the most evident manner.

ALBUMINARIA CURED BY CHOLERA.

The theory of expelling one disease by another is at least as old as the days of Horace, but has not many supporters in modern times; least of all did we expect to derive this benefit from the cholera. M. Martin-Solon, however, has met with some curious examples at the Hôtel Dieu. A boy, sixteen years of age, had scarlatina on the 21st of June, 1849. The disease was light, and convalescence rapid, but anasarca showed itself, and soon gained both the chest and abdomen. There was very little fever, but the urine was surcharged with albumen. On the 6th of August the patient was attacked by cholera, which continued rather violent for two days. The diarrhœa was peculiarly severe on the 8th, when the dropsical symptoms had completely disappeared. On the 9th the choleric symptoms abated, and those of albuminaria recommenced; but they were trifling, disappeared rapidly, and the patient soon left the hospital cured of both his complaints.

In another case, where the disease was idiopathic, and no ways connected with scarlatina, the cholera effected a cure equally complete and rapid.

GERMANY.

[From our Berlin Correspondent.]

CHLOROFORM.

A death from chloroform lately occurred in Berlin, and made a great sensation. A young lady died two days after an unsuccessful attempt had been made to extract a tooth while under anæsthetic influence,—the re-action, it is said, operating upon the brain. The dentist has been examined before the judicial authorities, and charged with having administered the drug without the presence of a surgeon or physician, as required by law,—not that such authorization would have saved the patient; but "the law allows it, and the Court awards;" and the effect will be to check the indiscriminate and indiscreet use of chloroform, which is here as fashionable as it seems to be in your northern capital. It has also given rise to many discussions among scientific men. Langenbeck, the successor of Dieffenbach in the University Clinic, and formerly Professor at Kiel, has availed himself of the opportunity to publish his "experiences" on the matter. He has used chloroform in all ages,—in the child of a few hours old, and in patients of 80 years of age. He has had but one death from it, and that in a sailor with comminuted fracture of the ankle, requiring amputation. While tying the artery, Langenbeck observed black blood and gas bubbles issuing from the wound, and the patient died half an hour after the operation. The same occurrence also lately took place in La Charite, during the operation for excision of the lower jaw. On dissection, much black and frothy blood was found in the right heart. By the way, Professor Baumgartner announces some illustrations of the cure of diseases of the respiratory organs by chloroform.

ABSENCE OF THE UTERUS.

A complete absence of the uterus has lately been found in a woman four years married. She had never menstruated; had a chlorotic countenance; her breasts swelled periodically, and she had sexual sensations. The vagina terminated in a *cul de sac*. A catheter passed into the bladder could be felt by the rectum.

THE DIRECTION OF LA CHARITE

was, until lately, in the hands of one of the Professors; but the last medical director having placed objectionable persons in subordinate situations, the Government have taken the appointment to themselves. It is now vacant, and will not be given to a medical man.

MEDICAL REFORM

meets with much opposition, even in the Profession. The papers by Dr. Bushnan in the *Medical Times* have fully explained our system of medical polity; and now the lower grade of surgeons, fearing to be in a worse plight than its members already are, are petitioning Government strongly on the subject.

SCOTLAND.

[From our Edinburgh Correspondent.]

The third meeting of the Edinburgh Medico-Chirurgical Society took place on Wednesday, Dec. 19; Mr. Syme, the President, in the chair. This being one of the meetings devoted to the exhibition of pathological specimens, Professor Simpson showed an example of extensive

TUBERCLE IN THE FALLOPIAN TUBE.

The person from whose body the preparation was obtained had been confined in an Asylum, for some time before death, on account of insanity. The disease was originally acute mania, she was the mother of several children, and had continued to menstruate to the last. A conversation ensued, which turned chiefly on the rarity of tubercle in the uterus and Fallopian tube. Dr. Bennett said, however, that he had met with several instances of tubercle affecting the Fallopian tube. Some remarks were afterwards made on the continuance of menstruation, notwithstanding the complete obstruction of the Fallopian tube by the tubercle; but this admitted of explanation, as the tube of the opposite side might be still pervious. Mr. Goodsir remarked on the singular fact recently observed in a female cut off by a violent death during menstruation, that the Fallopian tubes were filled with blood, or, at least, with a bloody fluid, different from the menstrual fluid.

CANCER OF THE LIVER.

Dr. Bennett then exhibited a liver studded with cancerous nodules, one of which, the size of an orange, formed a prominence which, when the liver was in situ, lay exactly over the region of the pylorus. The man from whom this liver was taken had been received, a short time before, into one of the clinical wards of the Royal Infirmary; and his chief symptoms being vomiting of blood, particularly after taking food, some impediment to deglutition, the aspect of organic disease, and the existence of a hard round tumour exactly on the region of the pylorus, the case was regarded as one of scirrhus of the pylorus. There was, besides, dulness, with crepitation, on the left side of the chest, which led to the belief that there was pulmonic inflammation on that side. The patient stated, that he had been stout and healthy during his past life, and that he had not suffered from ill health till about four months before he entered the Hospital. The *post-mortem* appearances here were highly instructive. The hard tumour felt in the region of the pylorus was, as already noticed, in the liver, exactly over the pylorus; the pylorus did not exhibit the characters of scirrhus, but it was strictured by a simple thickening; there was an aneurism of the aorta, and this was the source of the blood which was believed to come from the stomach. The left pleura was full of blood, derived from the aneurism, and the blood had also oozed into the left lung, so as to give rise to the crepitus which had been remarked during life. There was scirrhus in the œsophagus, accounting for the impediment to deglutition. The scirrhus also affected the peritonæum. Dr. Bennett stated, that he had observed, on several previous occasions, how different the diagnosis was between inflammation of the lung and the existence of blood in the pulmonic tissue, derived from an adjacent aneurism.

TUBERCLE OF THE CEREBELLUM.

Dr. Bennett exhibited next a cerebellum, containing a tubercle the size of a walnut. The man from whose body this was taken was a drunkard, who had died of fever, with much delirium, and there were appearances of subarachnoid inflammation; but these were manifestly recent, and had no connexion with the tubercle in the cerebellum. What rendered the case remarkable, was the existence of a cicatrised tubercular cavity at the apex of each lung, the origin of which was probably coeval with that of the tubercle in the cerebellum. This man was between thirty and forty years of age, but no satisfactory account of the circumstances of his previous life had been obtained.

MR. SYME ON CERTAIN TUMOURS.

The President then exhibited two tumours which he had recently removed. One of these belonged to that description of tumour which is recurrent, being the third which had been removed from the same person in the same region of the body. Mr. Syme called the attention of the Society to this kind of tumour, as one which presented important difficulties in practice, there being no certain diagnostics of its presence except the result of an operation, notwithstanding that when its character is known an operation is improper, as the morbid process is thereby accelerated. The tumour is white, and has somewhat the aspect of a fibrous tumour, but, at the same time, approaches more or less to the adipose formation. At first, no pain attends this kind of tumour, and the patient's health remains unaffected. It is easily removed by operation, and the wound heals even rapidly. But soon after the wound closes, another tumour, or, more frequently, a groupe of tumours, of the same description, appears in its seat or in the neighbourhood. If these be also removed, new productions take place, marked by a degeneration of character. These excite pain, undergo fungous ulceration, and, in the end, prove fatal. Mr. Syme referred to a paper on tumours of this kind, by Dr. Douglas Maclagan in the *Edinburgh Medical and Surgical Journal*, for July, 1837, and noticed several cases besides, which had lately been communicated to him. Mr. Syme, in his "Principles of Surgery," describes this kind of tumour as differing from the adipose formation only in having a slight admixture of cellular substance; and this coincides with what Vogel says of fatty tumours in his Pathological Anatomy. The example he gives of fatty tumours occurred in a woman forty years of age, who had been operated on four times, owing to the continual re-appearance of the tumours. "They were composed," he says, "of fibres identical with those of ordinary areolar tissue and of fat cells, which corresponded exactly with those observed in common adipose tissue.

Some conversation took place, also, on the structure of the second tumour exhibited by Mr. Syme. Dr. Bennett was disposed to regard it as of a fibrinous character. He complained that the microscope had been too little used in the discrimination of the structure of tumours.

THE CHOLERA BODIES.

Dr. William Robertson showed, under the microscope, specimens of the alleged cholera bodies which had been transmitted to him from Bristol.

NEW SURGICAL HOSPITAL.

The managers of our Infirmary have just determined to build a new Surgical Hospital. It is to occupy a portion of the space between the south end of the present Surgical Hospital and Drummond street, and the main entrance will finally be in Drummond street. It is to be of the form of a T, the part corresponding to the horizontal line being parallel to the old city wall bounding Drummond-street, that corresponding to the upright line running north and south in the same direction with the present Surgical Hospital. This Hospital will be commenced immediately, and will be completed in about a year; and then there is an intention of building a wing to the east of the present Medical house, which will form the commencement of an entirely new Medical Hospital, the rest of which may be gradually built on the site of the present Hospital, the whole front being towards Drummond-street.

SELECTIONS FROM FOREIGN JOURNALS.

ON THE USE OF DIURETICS IN THE TREATMENT OF LIENTERY, AND OF EVERY FORM OF FLUX FROM THE BOWELS.

By Dr. HELIN.

It is in general against diarrhœa, depending on excessive secretion of the mucous follicles of the intestines, that the Author advises diuretics. This method of cure, in so far as lientery is particularly concerned, rests on an observation, too largely generalised, we conceive, by M. Helin, that the arrestment of an intestinal flux by astringents or by opiates, is followed, in certain cases, by ascites, and, if the latter begins to subside, the diarrhœa returns. In promoting the secretion of urine, in directing the fluids from their unnatural tendency towards the intestinal canal, the diarrhœa and ascites disappear simultaneously.

The routine of treatment consists in the exhibition of the nitrate of potassa, from five to twenty or thirty grains, with a third of a grain to two grains of squill powder, in some suitable vehicle. To obedient subjects, he gives these, along with mucilaginous potions. No tonics, no astringents, no opiates. If the patients refuse the medicines, or the intestines do not well bear them, the endermic system is put into practice.

The Author asserts, that the use of diuretics checks the evacuations in typhoid fever, and he suggests their use in dysentery.—*Journ. de Méd. et Chir., publicé par la Soc. des Sciences Méd. de Bruxelles.*

THE CELL PENITENTIARY SYSTEM.

M. de Castelnau has concluded his Memoir, entitled, "Reflections, Moral and Hygienic, on the Peniten-

tiary Cell System, and on Systems of Punishments generally."

The leading conclusions of this extended work are as follows:—

1. Contrary to what has been generally asserted by all public writers who have interested themselves in the matter of Penitentiary Reform, the number of criminals has not increased in France these twenty years. The proportion of the number of criminals to that of the population has been the following during the four periods of the twenty last years:—

From 1826 to 1830 1 culprit for 4511 persons.
1831 to 1835 1 .... 4429 "
1836 to 1840 1 .... 4296 "
1841 to 1845 1 .... 4898 "

2. The number of culprits has continued thus as invariable as that of the crimes.

3. The proportion of second offences has equally been the same in 1845 as in 1826.

Such are the fundamental facts which M. Castelnau has laboured to establish in the first portion of his dissertation on the Criminal Population of France.

In the second part, he has considered the agency of the cell system on the health and intellectual powers of the prisoners.

After showing, that the statistical documents collected from the cell prisons of the United States are neither sufficient in number nor in authenticity to be a basis for positive conclusions,—after having proved, that, even though those documents were sufficient, and of proper authenticity, they could not, however, be collated with those procured from other establishments, situated in different localities, as the mortality might, and does actually, vary much among prisoners under the same regime; but, in establishments at a great distance from each other, M. Castelnau offers demonstration by the accompanying illustration of this curious fact.

In the central prison at Poissy, (Seine et Oise,) the mean mortality for seven years (1837—1843) has been 3·82 in 100; in the central prison of Eysses, (Lot et Garonne,) under precisely the same *régime* the mortality has been, for the same period, 13 for 100.

On comparing the mean mortality of the young prisoners of the Department of the Seine, one portion of whom (the young men) are under the cell system; and the other portion (the young females) are under the common plan; the annexed results are obtained:—

Mean mortality under the common plan 5·37 in 100
Mean mortality under the cell system 10·50 in 100

These conclusions, which M. de Castelnau considers only as showing a strong probability in favour of the common regime, in consequence of the imperfect state of the figures they rest on, are furthermore corroborated by the most acknowledged principles of physiology,—principles which would be quite adequate of themselves, as M. de Castelnau is persuaded, to prove *à priori*, the excellence of the common system over the cell system, in a hygienic point of view. These principles are, that the health of man, as that of all other animals, will be proportionally more perfect, in so far as it can more completely exercise all its functions, and satisfy all its wants. And it is enough to contrast for one instant the mode of life the prisoners lead, to perceive that those who live under the cell system are in a condition most unfavourable to health.

Entering on the third question which he had proposed to investigate, to determine the utility of the regime of the cell system, as affecting the question of morality, M. de Castelnau corroborates, by the following propositions, which are the simple ratio of numbers, that it is absolutely null and void.

In Pennsylvania, the frequency of crime is precisely the same since the institution of the cell system as it was previously. The same holds true in Paris.

In conclusion, M. de Castelnau conceives generally the futility of every system of ameliorating the condition of prisoners; for the amount of criminalty, he remarks to be as determined as that of the fall of bodies. It is apparent, then, that it is less our object to correct criminals, than to place them in a position where they can do no injury, and may contribute to the general service of society. This M. de Castelnau conceives is to be accomplished by improving the condition of the prisoner.—*Academie de Médecin et Gazette Médicale.*

INFLUENCE OF THE NERVOUS SYSTEM ON THE PULSE—PREDOMINATING ON ONE SIDE OF THE BODY.

The operation of the nervous system on the pulse is, to some extent, one-sided; irritation applied below the decussation of the anterior pyramids of the medulla oblongata, chiefly influences the same side, while applied above this point, or to the brain, it chiefly affects the opposite side.

In the first of these cases, pain or paralysis causes a diminished speed of the pulse and capillary system; while a less considerable irritation—which mainly affects the motor part of the nervous system—or an increased movement of the body, accelerates the pulse.

This is shown, (1) by experiments on frogs. If the webs of the two hind feet be, at once subjected to microscopic examination, and one of the fore feet be nipped, it will be seen that the pain induces a dilatation of the vessels, and a diminished speed of the current, in both the hind feet; but that the retardation is much more considerable on the corresponding side. If the muscular irritability of one side be weakened by passing a continuous current of electricity lengthwise through the hinder extremity, the current is retarded on this side, accelerated on the other. Cutting through the anterior columns of the spinal cord, causes extraordinary retardation of the capillary circulation of the same side, attended with dilatation of the vessels. Light blows on the chest or belly, especially in the region of the hinder lymph-heart, quicken the circulation and narrow the vessels on both sides, but most on the irritated side.

(2.) In man, moderate movement of one foot, while in the sitting position, quickens the radial pulse on the same side. Pain, mechanically excited in the ulnar nerve of one side, retards the pulse on both sides, but most on the irritated side. Withdrawal of the stimulus of light from one eye, as well as total or partial paralysis of one side of the brain, retards the pulse on the opposite side, while continuous reading with one eye, the other being freely exposed to the light, quickens it.—(H. Horn, *N. Med.-Chir. Zeitung*, No. 31, 1848. Abridged in *Schmidt's Jahrbucher*, No. 10, 1849.)

SOFTENING OF AN ANTERIOR LOBE OF THE BRAIN WITH LOSS OF SPEECH.

This case was a very uncomplicated one, and served strongly to support Bouillaud's opinion. A man, aged 32, who had received a trifling injury to the foot, was suddenly taken with vertigo, inability to articulate a single word, and hemiplegia and loss of sensation of the right side. Consciousness remained. On the third day power began to be regained over the leg; the arm remained paralysed. On the fifth day he passed urine spontaneously; previously it had been retained. On the eighth day, after a shivering fit, he died. The anterior third of the left hemisphere was softened, and of a milky white colour. The softening affected only the medullary substance. —M. Rizzi, in *Gazetta Medica Lombarda.*

ONE CAUSE OF STERILITY IN THE FEMALE.

For more than nineteen years M. Vannoni has been engaged in the study of this subject. He believes that an original want of development of the body and neck of the uterus is the cause of sterility in many women. Examination per vaginam discovers a small hard neck, a minute opening, and on pressing down the body of the uterus with the hand placed externally, it also appears small. In these cases the sexual desire is usually very slight. A cure is not impossible; sometimes after many years of married life, the uterus gradually enlarges, the neck becomes more voluminous, the os more open; then impregnation may occur. Vannoni thinks, that if this will not occur, after marriage, without remedies, no cure is to be hoped for.—*Il Progresso* (a new Journal, published bi-monthly at Florence.)

INTERMITTENT HÆMATURIA.

A case of quotidian ague, in which, after the shivering, a violent pain came on regularly in the loins and hypogastric region, and was succeeded by passage of a small quantity of thick and bloody urine, has been reported by M. Defer, of Metz. The case was cured by sulphate of quinine. A similar case occurred to Elliotson.—*Gaz. Med.*, Nov. 17.

NEW METHOD OF DIAGNOSTICATING BILIARY CALCULI.

In a case of jaundice, M. Martin-Solon, found that on pressing the hand below the region of the gall bladder, and, on directing the patient to make two or three expulsive and inspiratory efforts, he could feel the gall bladder impinge on the fingers, and could perceive a sort of crepitus produced by the friction of the gall-stones on each other. The crepitus could be perceived also by the stethoscope.—(*L'Union Med.*, Nov. 15.)

CHOLERA AT THE SALPETRIERE.

A very interesting account of the severe outbreak of cholera at the Salpêtrière is given by M. Barth in the *Archives Générales* for September. We can offer only a short analysis. At the commencement of the attack there were 1571 insane and epileptic patients, 3287 old, infirm, and blind patients, and 483 servants and persons employed in the place. On the 14th March the first case occurred, on the 19th the second; on the 20th there were 10 new cases, and the number, with little variation, increased from this number up to 58, on the 3rd of April; the disease remained at its height till the 10th of April; it then gradually declined, till, on the 25th, it was considered at an end. Persons of all classes in the place were attacked, but the numbers are not given. In 5 per cent. the cholera commenced suddenly; in all the other cases by diarrhœa, which usually lasted from one to eight days. In 117 patients, in whom the onset of the disease was noted, in one, cramps first appeared; in two, vomitings; in all the rest purging was the first symptom. Purging, at some period of the case, was present in all the cases; vomiting was absent in 10 per cent.; cramps in 3 per cent.; coldness of the body was absent in 3 out of 169, or 1·7 per cent. Cyanosis was marked in almost all the fatal cases, being absent once in 30 patients; among the recoveries, it was absent 1 in 18. In 90 per cent., the pulse was diminished, and in severe cases abolished. In 91 patients, the urine was suppressed in 70, was retarded in the rest. The coldness of the body was often more marked to the hand than the thermometer. In one case, M. Roger marked 31 Cent. (87·8 Fahr.) in the axilla. Sometimes there were oscillations in the malady, or remissions in the symptoms; very rarely intermissions. The greater number of deaths occurred in the algide period. Re action was a salutary condition when it remained moderate, and constituted a happy transition towards the cure; but when it passed certain limits, it gave rise to new accidents,—congestion of the brain and the lungs. One fourth of the fatal cases died in this stage. In only two cases, out of the whole number of re-action, was there an eruption; in one case it resembled measles, in the other a diffuse papulo-erythema. In six other cases there was diptheritic deposit on the tongue and in the cavity of the mouth. Eight cases of the recoveries had relapses. In 30 of 162 fatal cases, the duration of the disease was less than twenty-four hours; in 58, one day; in 28, before two days; in 14, the end of the third day; only 32 lived beyond the third day. Among the cases of recovery, some were out of danger on the third day, but in the greatest number of cases it was from the fourth to the seventh before convalescence was established. Age exerted a great influence on the mortality; in patients from 10 to 20 years, the mortality was 10 per cent.; from 21 to 40 years, 30 per cent.; from 41 to 60 years, 61·54 per cent.; from 61 to 90 years, 79 88 per cent. Nothing new is stated respecting the *post-mortem* appearances. The treatment was various. The "hachisch" (hemp) failed; the sea-salt was more successful, but not very much so; the use of the nitrate of silver was followed by much more satisfactory results. This medicine was at first given as an enema; afterwards by the mouth; the doses were five centigrammes gr. ¾) in two or three ounces of water. It seemed to arrest the stools and to moderate also the cramps.

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The present Number closes Vol. XX. Next week we intend publishing a very copious Index.

We shall also, next week, avail ourselves of the first Number of our Twenty-first Volume, to offer Addresses to our Readers, both from ourselves and from the Proprietors of the "Medical Times."

THE MEDICAL TIMES.

SATURDAY, DECEMBER 29, 1849.

We have reason to be satisfied with the identity of opinion that now exists between ourselves and other representatives of the Profession's interests, upon the subject of the proposed alteration of the Charter of the College of Surgeons. We have not written in vain; for we have produced conviction in a quarter where it was least expected. This is the privilege of truth. It is now obvious that the resolution passed by the Council of the College is too trivial to meet the exigencies of the crisis; and that if the time is come to apply to the Government for a new Charter, it must be to obtain powers of a far more extended and comprehensive character than those contemplated in the Resolution. Let us revolve a few ideas upon this matter. What will the College do? What can they do? What do we require?

The entire history of the conduct of the Council of the College of Surgeons is opposed to the idea, that they will ever willingly consent to such an alteration of the Charter of the College as shall constitute it the legal home of the General Practitioners. We commence with this observation, because the propositions of Mr. Bottomley, as submitted to the President of the College at the recent interview, contemplated such a result. These Propositions, in their general bearing and aim, must command approval, as there cannot be two opinions upon the expediency of making the College of Surgeons the head of the surgical and medical practice of this country, so far as concerns the General Practitioners: the only ground of doubt is its practicability. If such a scheme should ever be seriously entertained by practical men, it would involve the necessity of abolishing the Apothecaries' Society, of providing for its Licentiates within the walls of the College, and of giving a status and legal rights to the Graduates of Scotch and Irish Universities practising as General Practitioners in this country.

It would be idle to attempt to re-constitute the Profession upon a basis less extensive than this. No Government would condescend to examine such propositions,—no really authoritative association would accept them; the Practitioners from Scotland and Ireland would clamour for equal rights, and justly condemn English selfishness; and the Apothecaries' Society, urged on by their Licentiates, would obstruct every such imbecile attempt, by interposing the immoveable wall of an Act of Parliament. Partial legislation would, therefore, be equally imprudent and unjust, and is, in point of fact, entirely beyond the question.

Is the governing body of the College of Surgeons prepared for this issue? We unhesitatingly declare that it is not. The Fellows and the Council are equally opposed to it; and the former not less, but rather more, than the latter. Each Government that has been applied to has also undisguisedly declared its repugnance to such a consummation; in fact, the disposition hitherto has been to retain the College of Surgeons as a special Institution on a similar footing with the College of Physicians, as such an arrangement is considered to be more in harmony with the spirit and principles of past legislation, and with the public Institutions of the country. We know that there are absurd fallacies in these notions, and that a thorough propounder of abstract truths would be able, in a few sentences, to shatter the whole of these hoary prejudices. But politics is not an abstraction, and philosophical dogmas occasionally look very defenceless and puerile before hard interests and time-honoured customs. The truth is, statesmen must deal with things as they are, and not as they might be, and they must always bear in mind, that what is frequently belauded as justice is not always equity.

If, again, to take a wider view, the College of Surgeons be constituted the sole Medical Institution in this part of the country, the powers of the College of Physicians must be abrogated, together with those of the Apothecaries' Society; and would these bodies consent to be thus unceremoniously wiped out of the calendar? or would their licentiates and fellows surrender without a struggle their peculiar privileges and honours? It is a reform, and not a revolution, that is wanted.

Whilst we see countless difficulties in the way of such a reconstitution of the College of Surgeons as many Members of the College seem to desire, we are of opinion, that the Members will obtain a much wider enfranchisement in the College than they now possess, if they agitate boldly and steadily for this object. Let them not, however, think that the Council is at present disposed to grant such liberal terms to the Members as they demand. There is not one Member of the Council that is prepared to grant a ten years' franchise; if there be, let him speak out, that his sense and liberality may be duly honoured. Mr. Guthrie himself has repeatedly declared, that he is in favour only of a twenty years' franchise, which, in fact, constitutes the pith of that egregious penal resolution lately passed by the Council, and once eulogised as an act of gracious condescension to the demands of the aggrieved Members. It is a little dust thrown out to blind the eyes of unwary Members—nothing more. Mr. Guthrie has also declared, that he is favourable to the formation of a Board within the College, to examine candidates in Medicine and Midwifery; but he makes it a condition that these Examiners shall not be eligible for the Council. This is a proposition to cast odium upon the highest branches of professional science,—upon, indeed, the very Science itself. It means, that the Science of Medicine shall be dishonoured, degraded, insulted, and ostracised in the College of Surgeons, in order that the Council may be preserved in all its original purity. We repudiate these terms, and hold them up to the gaze of the Profession, so that they may incur its severest animadversion. Can we ever consent that the Examiners in Medicine and Midwifery in the College of Surgeons shall be of a lower dignity than the Examiners in Surgery and Anatomy, and dwarfed down to the same standard of insignificance with the Examiners in French and Mathematics, whom the Council has recently appointed? The Council has, and may again degrade the Members who are also Practitioners of Medicine, but the Science—never! These schemes will never be tolerated, and yet these are the best that the most liberal Member of the Council has to offer.

The Members must depend upon their own strength, and proceed with the agitation of sound and reasonable reforms. It is not easy to say what or how much would satisfy the numerous varieties of opinion that prevail; but, unless the Profession can unite upon some general scheme, which shall embrace not only the Members of the College or the Licentiates of the Hall, but all classes in a common interest and object, we fear that their efforts will be as ineffectual as the flapping of a bat's wing against a church-steeple. Union alone can make them strong, and they can be united only upon a common interest. Any policy that introduces jealousy, exclusion, preferences, must make enemies; and even if suffered, can only be regarded as means to a more just and enlightened system, by which all men equal in point of social station and Professional acquirements shall be equal also in the eye of the law.

OUR SANITARY LAWS.

London is the ordeal and the touchstone of Sanitary Reform. If Sanitary Reform can be carried out here in the face of selfish property, opposing interests, and an immense population, its success is assured everywhere. In answer to the question, How are we to set about Sanitary Reform? we may propose another, How is the health of the poor inhabitants of London to be improved? The answer to the second supplies an answer to the first demand, and that answer we shall now attempt to give.

The greatest danger the cause of Sanitary Reform has ever encountered exists now. At this very moment, when all seems won, failure is most imminent. This danger is not from foes, but from friends; not from determined inaction, but from ill-advised promptitude. Of all men the Commissioners of Sewers are just now most to be dreaded. And this, not from their own error, but simply because work has been portioned out for them; that work they are about to do. It is not their fault, but the fault of the Sanitary Reformers, who commence building the roof of the house, before they have laid the foundation.

The Commissioners of Sewers have appointed a chief engineer, with a salary of 1,500*l.* per annum. They have had sent to them more than 100 plans for draining the Metropolis; the execution of one of these will cost probably

a million of money! It may cost more; but, let it cost what it will, the money will be raised, heavy rates will be made, Government will assist, the engineers will get to work. What will they do? Why, certainly, after an immense outlay, they will succeed in making good sewers for the open parts of the town; they will improve Belgrave-square and Portman-square, Leadenhall-street and Snow-hill. With infinite pains they may even carry their sewers into the worst districts of the town, and effect the sewerage of St. Giles, Bethnal-green, and Horsleydown. They may free the Thames from its loathsome tributaries, and deprive it of the *soubriquet* of the "mammoth-drain." They will, indeed, have then accomplished great things; for to do even so much is a task that will task them to the utmost.

At the end of the time we shall have got rid of our gully-holes; we shall have no cesspools; several subterranean nations of rats will have been extirpated; and that interesting class of men who live in underground London, and breathe an atmosphere composed of equal parts of carbonic acid, nitrogen, and sulphuretted hydrogen, will begin to be reckoned among the very dirty things that were. But shall we have accomplished Sanitary Reform? Shall we have no fever nests?—no cholera-holes?—no storehouses of malignant scarlatina? Will the Registrar-General add ten years to the life of each London artizan; and will the fiery denunciations against our polluted air, which we now read in his admirable Reports, be changed into eloquent dissertations on the superior advantages of a town residence? By no means. Sewered London will be as unhealthy as unsewered London; or, if not altogether so bad, will be as bad for particular districts.

"But how is this?" we hear exclaimed by some enthusiastic engineeer, who has sent in a plan comprising three aqueducts, six tunnels, and an indefinite number of "sumps," and which is to cost the moderate sum of 3,000,000*l*. sterling; "you asked for sewers, you prayed for sewers, you agitated for sewers, you intrigued for sewers, and now, when you are going to have sewers, you pester us more than you did before. After getting a grant of 3,000,000*l*., you want Government to begin sanitary reform afresh. What fresh crotchet is to be now started?"

In answer to this, we would take our indignant remonstrant into any of the back-slums of our back districts,—not the open streets, but the little dark inlets, recesses, and *cul de sacs*, which are arrived at under dim archways, through winding lanes, and narrow fœtid courts. We would say to him, "Observe these tenements; each is one or two stories high, not more; for these fragile walls would never bear a third story; each was built, with the greatest care for the landlord's pocket, without the least thought of the tenants' comfort. In each of these houses, perhaps in each room, live one, two, or even more families—eight, ten, nay, twenty individuals. Observe how every house, and in each house every room, blocks out the air from its neighbour. See these little windows, these low roofs, these narrow dark stairs. Now consider, you possibly may, at enormous expense, carry a really serviceable sewer to each of these houses; each house will cost you as much to drain it as a nobleman's mansion in Grosvenor-square, for you will be obliged to supply water in large quantities, to make your sewers act. And, then, when you have made your sewers, and have expended on each, as much money as the very house is worth, you will not have made the air less fœtid and stifling than it was before; you will not have restored colour to these haggard cheeks, nor driven fever from the plague-stricken dwellings. If you want to know wherefore, take a lesson in the principles of ventilation from that true sanitary reformer, Dr. Arnott, and he will tell you that air is contaminated in many other ways than by cesspools, and that, if you want to purify your atmosphere, you must insure that it shall be able continually to be changed."

We can fancy our sensible Engineer, not yet completely hardened by the three millions he is about to spend, conceding the justice of these remarks,—admitting that the houses are not fit for habitation, that their sewers will be worth more than themselves, but concluding, that if sewers are no remedy for these evils, neither is there any other remedy, unless another great fire should level London to the ground, and a wiser Government than that of old, permit some Sir Christopher Wren to carry out, unimpeded, his great design.

But here is the first point on which we join issue with the Commissioners of Sewers. They are about to drain houses not worth the drainage; to spend money which might be more wisely applied; to commence a great work, which, however necessary, is only part of a vast design, and ought to be kept in due subordination to the principal idea. For we assert, after long consideration of the point,—after long experience of the condition of the poorer districts,—that the only way in which certain parts of London can be purified, is by beginning at the very foundation,—by hurling off these miserable and noxious tenements which now cumber the earth, and by building in their places, houses in which men with immortal souls may not disdain to dwell.

Nor is this by any means so chimerical a scheme as might be supposed. The very system we have hitherto adopted, is one as little economical to the landlord as it is beneficial to the tenant. The landlord, to make the most of his land, crowded his houses together; to build his houses cheap, he built them slight. Consequently, he covered a large tract of ground with small cottages. But if he had built large mansions instead of cottages, houses of six stories instead of houses of two, he would have made as much profit as if he had had three times the ground. Luckily, however, he did not hit upon this expedient; the first great outlay deterred him; had it not been so he would have built houses which would have exaggerated to a gigantic scale the nuisances of the humbler habitations which actually were erected. Had it been left to avaricious landlords to build these tall tenements, we should have been as some of the continental towns are in a slight degree, "cabined, cribbed, confined," within dense barriers of stone and brick.

What the landlord should have done for his own profit in the first instance, and would have done in the worst way, Government should now do for the profit of the working class, and in the most judicious method. For London, and we believe for many of our large towns, there is no alternative. If Sanitary Reform is to be carried out, let us know the extent of the changes which are really necessary. And these changes go to this extent. Vast portions of the worst parts of the town must be absolutely rebuilt; and rebuilt, not in long narrow rows of cottages, but in large mansions, separated by intervals from each other, thoroughly drained and supplied with water from basement story to garret, and inspected regularly by officers appointed by Government, who shall take care that perfect cleanliness is preserved. Some of the model lodging-houses may be taken as a type of these large buildings.

In this way, a population spread over an acre will be lodged in a house, which, built of six instead of two stories, will give to every one more room than he has at present in one-third of the space. Two-thirds of the acre will be left open, in order to insure a thorough circulation of air. These houses will be easily drained, easily kept clean, and easily ventilated. The great obstacle to their formation will be the original cost of the building. The landlords can hardly be expected to undertake this, and may anticipate some assistance from Government. To this they will be so far entitled, because the Government, who have tacitly permitted the present nefarious system of running up small tenements, in which poor people could not refuse to dwell, have been guilty parties to this oppressive and unjust system, and must perform their part in the wiser measures which are to atone for it. And it may be said, if the country is rich enough to build great houses for paupers and criminals from one end of the land to the other, it is surely rich enough to assist its honest and hard-working poor to obtain release from their present pestilential abodes.

One hundred such houses as we propose would blot out St. Giles's, Ratcliffe Highway, Whitechapel, and fifty other harbours of disease from the map of London. It would enable large spaces of ground to be opened which would admit air to the very heart of the City. Gradually as the scheme is worked out, and it cannot be done in a day, the poor quarters of London would disappear. It is by no means impossible, that the dwellings of our very poorest class might vie with the mansions of the Aristocracy in appearance and aspect, or at the least, in salubrity and comfort.

It may be objected to this scheme, that the dwellings we contemplate would be so much superior, not only to the houses of the very poor, but to those of the superior classes of working people, that, after all, we should be building homes for persons who are already well lodged, inasmuch as the better classes would doubtless leave their present dwellings, and crowd into the new houses. This could not be altogether prevented; but, if it occurred to the fullest extent, we should still have emptied for the very poor the abodes of the better classes. The old plague dwellings would

at any rate be away, and our poor would be raised a step in point of accommodation.

The scheme we have now proposed may appear to some extravagant from its extent, and impracticable from the nature of the interests at stake. But if the gradual rebuilding of the poor districts of London appears to any one too gigantic a plan to be carried out, we answer, that it is not one whit too gigantic to cope with the mighty evils it is intended to meet. And it is possible that the difficulties in the way of its execution may appear greater than they really are, and we shall accordingly, in our next Article, examine into the nature of these presumed obstacles, and determine whether they oppose an impracticable barrier to the execution of the plan.

THE HOSPITALS OF PARIS.

The history of the Parisian hospitals in the "olden time" is curious, and full of instruction. Originally they were consecrated almost exclusively to the treatment of the leprous. A writer of the thirteenth century, Mathew Paris, estimated the number of persons who laboured under this dreadful malady, in his time, at 19,000. Of these, France contained no less than 2,000, as we learn from the last will and testament of St. Louis, who left to each of the Lepers' Hospitals the sum of five francs, equivalent to 4*l.* of our present money.

The direction of these Establishments, and of the Hospitals in general, was entrusted to the Clergy and the Bishops. The Church, indeed, was bound to consecrate one-fourth of its fixed revenues to them; but this charge was soon found inconvenient, and was badly paid. The Hospitals were then supported by voluntary subscription, and several were erected independent of the Church.

For a long period, likewise, the administration of the hospitals was entrusted to certain religious orders; but these worthies gradually converted the hospital revenues into sources of personal profit; and Louis XII. was compelled to remove the administration altogether from their hands, and place it in those of the laity, who were at once "solvent and responsible." The hospitals were now directed by a General Council, having under it an Executive Committee; and these continued in authority until the Revolution of February, 1848, overturned this as well as every other authority. At that period the hospitals were handed over to three delegates, by order of the Provisional Government, and these three gentlemen continued in power till the 10th of January, 1849, when the new law on public assistance was promulgated. According to this law, the hospitals are placed under the authority of the Home Minister and the Prefect of the Seine, and their direction confided to an Inspector-in-Chief, with a Superintending Committee appointed by Government. This latter Committee is now composed of twenty members, viz., the Prefect of the Seine, President; Prefect of Police; two Members of the Corporation, two Mayors, two Municipal Officers, a Member of the Council of State, of the Supreme Court of Appeal, a Physician and Surgeon of one of the Hospitals, a Professor of the Faculty of Medicine, a Member of the Chamber of Commerce, and six other individuals.

From the above it would appear, that the Hospitals did not assume any degree of importance as public establishments until they were completely removed from the hands of the clergy. This occurred about the middle of the seventeenth century, when nearly all the old hospitals were taken down and replaced by buildings better calculated to fulfil their objects. One of the first to disappear was the hospital "des Petites Maisons," founded in 1497, to receive patients attacked by the Neapolitan or venereal disease. The present Hospital des Menages, Rue de la Chaise, is built on the site of this old establishment. Soon afterwards followed the Hospital de Jesus, built in 1653; the Convalescents of Charity, founded in 1142; the Hospital of St. Gervais, founded in 1171; many Houses of Refuge; the Hospital des Enfans Rouges, founded by Marguerite de Valois, Queen of Navarre; the Hospital of St. Catharine, Rue St. Denis; the Enfans Trouvés of the Faubourg St. Antoine, various Hospitals for orphan children and pilgrims, and a great number of other establishments of a similar kind.

Many of these still existed at the middle of the last century, and the greater part were only suppressed by the great Revolution of 1793. At that period the city of Paris possessed no less than forty-eight Hospitals, of which twenty-two were exclusively devoted to patients; twenty to persons not labouring under disease; and six to both classes. 20,000 persons were daily treated or fed in these immense establishments, without counting the foundlings, who amounted to 15,000. The administration was necessarily imperfect, and the Government was about to realise the reforms proposed, when the great Revolution broke out, and the property of the hospitals, then amounting to about 300,000*l.* per annum, was put up to public auction by the Republican authorities. The confusion which followed these unfortunate times was long unfavourable to the Hospitals; but they have at length recovered, and attained a degree of perfection which now renders them worthy of the admiration of Europe.

The actual number of civil Hospitals and Infirmaries in Paris is twenty-five. They may be distinguished into general and special. The general Hospitals are nine, and contain as many as 3715 beds, viz.:—

Hôtel Dieu	810	beds
La Pitie	620	"
La Charite	429	"
Beaujon	492	"
Neckar	320	"
Bon Secours	300	"
St. Marguerite	300	"
St. Antoine	320	"
Cochin	125	"

The special Hospitals are six, and contain 2819 beds, viz.:—

St. Louis (skin)	825	beds
Hospital du Midi (lues men)	300	"
Hospital de l'Ourcine (lues females)	300	"
Enfans Malades	600	"
Maison d'Accouchement	514	"
Hospital des Cliniques	120	"

To these we must add the National Sanatorium, Faubourg St. Denis, which is capable of receiving 150 patients, and belongs to the State. In ordinary times the patients pay so much a week; but in cases of emergency, as after the insurrection of June, and during the cholera, this establishment is susceptible of being converted into an excellent Hospital.

The "hospices," or Infirmaries, are asylums open to all those whose poverty, old age, infancy, madness, or incurable infirmities disable from obtaining a livelihood. These, again, may be distinguished into Hospices, properly so called, and Houses of Refuge. Patients are received gratuitously into the former. Admission to the latter is obtained on payment of a small annual sum or donation.

The Hospices are eight in number:—

La Vieillesse, (men; formerly called Bicêtre), 3080 beds; of which 830 are devoted to the insane, and 2250 to the aged or infirm.

La Vieillesse, (women; Salpêtrière,) 4901 beds; 1440 for the insane, and 3461 for the aged.

Incurables (men)	510	beds
Incurables (women)	604	"
Foundlings and Orphans	600	"

In addition to which nearly 23,000 foundlings are sent out to nurse in the country.

Hospice Devillas, 35 beds, for the indigent of both sexes above 70 years of age. There are, also, two other establishments of the latter kind under the Commission, viz., the Hospice St. Michel, founded, in 1830, by M. Boulard, and containing 12 beds; and that of La Reconnoissance, founded by M. Brezin in 1833, and receiving 300 old workmen.

The "Houses of Refuge" are the Hospice des Menages, 742 beds; exclusively confined to widowed persons or householders, who pay a fixed sum annually.

The Hospice de la Rochefoucauld, 213 beds, for old people who can pay 20*l.* a year; and, finally,

St. Perine, with 182 beds, for those who can pay 21*l.* annually.

In addition to these establishments for the treatment of the sick, or the refuge of the infirm, there are several accessory ones, through means of which considerable economy is obtained in the working of so vast a system.

The "General Bakery," for example, founded in 1801, manufactures all the bread consumed in the Hospitals and Infirmaries.

The "General Wine Cellars," opened in 1816, receive all the wine necessary for one year's consumption. Besides which, these two establishments contain immense provisions of vegetables, oil, &c., in fact, of everything which is consumed in any great quantity. The saving of expense is thus enormous.

The "Central Pharmacy," opened in 1796, receives and prepares all the medicines required by the Hospitals and Infirmaries. It likewise supplies, on contract, the Dispensaries, Prisons, and a few other public establishments.

Lastly, to complete this brief sketch of the Parisian Hospitals in their *ensemble*, we must notice the "Bureau Central," composed of sixteen physicians and four surgeons, whose duty it is to examine all cases—except those of urgency—previous to their admission into Hospital. The members of the Bureau Central are all chosen by concours, and from amongst them the Government is bound to select the Hospital Physicians and Surgeons, according as vacancies may occur.

The "externes" and "internes" are likewise chosen by public examination, and correspond exactly to the "dressers" in English Hospitals. The candidate for the "externat" must be 18 years of age, and have taken out one inscription, at least, to the Faculty of Medicine. The "internes" are elected from amongst the *externes* of one year's standing. It is altogether an abuse of words to translate either of those terms by "House-Surgeon," or "House-Physician."

When we reflect, that 90,000 patients are annually received into the hospitals of Paris—that 14,000 old and infirm persons are supported in its infirmaries—that 5,000 foundlings are taken in, and 23,000 sent out to nurse—and, finally, that domiciliary assistance is afforded by the Administration to 30,000 indigent families—we may form some idea of the immense efforts made to relieve such an amount of human suffering. Yet the revenues are not very great. They are chiefly composed of 12,000*l*, a year, derived from the excise duties of the city; 240,000*l*. a year from capital, the tax on theatres, on pawnbroking offices, &c.; and about 12,000*l*., the capital of donations or legacies. Yet these sums, considerable though they appear, are far from meeting the wants of the population.

In a succeeding Article, we propose to give a brief notice of the different Hospitals in particular.

THE OPERATIVE SURGERY OF JOHANN FRIEDRICH DIEFFENBACH.

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(Continued from page 384.)

CHAPTER X.

OF THE TORSION OF ARTERIES.

(*Torsio Arteriarum.*)

Torsion implies the twisting of an artery, so that a mechanical and afterwards an organic closure of the vessel is effected.

The Profession is mainly indebted to Mons. Amussat for the introduction of this method of arresting hæmorrhage.

Torsion is recommended in the instance of bleeding from vessels of the second class, especially when the wound is to be directly closed, so as to avoid ligatures. Here it possesses the advantages of being done quickly and without aid, important considerations when the surgeon is alone. It is very useful to obviate bleeding into cavities. After operations for strangulated and adherent ruptures, which require to be relieved with the knife, I have twisted divided arteries and veins, and then replaced the intestines in the abdomen without any internal hæmorrhage ensuing. In other cases again, where numerous arteries of the omentum were pouring forth blood, I have applied fine thread ligatures, cut these off close to the knots, and never known any mischief result.

On the other hand, torsion is less eligible for large, gaping wounds, with loss of substance, because as these are generally filled with soft lint, the ligature of the arteries cannot be held as any mechanical irritation. The application of torsion to arteries of large calibre is hazardous, because insecure; secondary hæmorrhage, violent inflammation, and puriform disruption of the vessel with, gangrene of its tunics, may possibly supervene. To insure success even with the ligature, a healthy condition of the vessel is indispensable, and still more so in reference to torsion, where brittleness, degeneration, unnatural rigidity, but, above all, ossification of the coats, render all attempts of the kind difficult and nugatory.

The action of torsion is that of pinching, lacerating, and compressing the internal coats, through the medium of the firm external cellular envelope.

It speedily determines occlusion of the arterial canal, and, ere long, by the twisting of the sort of knot, a shortening of the extremity of the artery, which, in virtue of its natural elasticity and retractile power, is drawn into the surrounding soft parts, so as to lie rather within than upon the surface of the wound. In other respects, with abstraction of inflammation in and around the artery, the sequel and phenomena of torsion are analogous to those of ligation. We find the formation of a coagulum in the vessel, which extends to the first collateral branch, further exudation upon the internal surface, re absorption of the clot, and transformation of the inferior extremity of the artery into a cord.

Torsion may be executed by means of common forceps with broad nibs; or else with the so called torsion forceps of Weiss, furnished with a bolt sliding into a loop, which serves to prevent it slipping off the vessel.

1. OF THE TORSION OF BLEEDING ARTERIES.

The extremity of the divided artery is to be taken hold of as if applying a ligature, then drawn a few lines forward, next insulated from the adjunct parts, the incumbent cellular texture being stripped away by the aid of common dissecting forceps. These, held between the index finger and thumb of the left hand, serve to fix the artery. The torsion is now performed leisurely and continuously until the portion grasped by the torsion forceps is completely twisted off. Small arteries require three or four rotations upon their axis; larger, from eight to ten. Should the artery be untimely lacerated, and the bleeding return, it must be drawn out a little further, and the torsion carefully repeated. No special after-treatment is called for, as the wound usually heals by applying sutures and adhesive stripes.

2. OF THE TORSION OF ARTERIAL TRUNKS.

The observation that an artery, when transfixed, crushed, or made to inflame, by the intervention of a temporary ligature, becomes obliterated at the very spot, led Thierry to conceive that the same thing might be effected through methodical twisting of the vessel by means of a hook. Lieber previously found that when the carotid was thus treated, inflammation, extending to the heart or brain, was readily induced. During such manipulations it is scarcely possible to avoid injuring or including some nervous filament; the artery, moreover, is prone to burst open, its walls, are liable to mortify from the violence done, to rupture, and, of course, left without any prospect of a coagulum being formed.

A second mode of torsion recommended by Thierry consists in insulating the aneurismal artery above the seat of the disease, as in applying a ligature, then cutting it across and twisting it at each end. This resembles the plan of applying two ligatures and dividing the artery in the interspace, and is still more reprehensible.

The following are supplementary methods:—

1. The stripping of the internal and middle coats of the artery—(*torsion avec refoulement*).

This is more insecure than ordinary torsion in the instance of bleeding vessels, and very perilous in that of voluminous undivided arteries, because, when the internal and middle coats are severed from the filamentous, the latter is readily ruptured, and no proper coagulum can ensue. Amussat, the inventor of this method, seizes the artery crosswise with forceps, then pinches it with another forceps, till the internal tunics give way, and gives it two or three turns. By this manœuvre the internal and middle coats are shrivelled up and inverted inwardly, so as to form a kind of *cul-de sac*, or valve, which arrests the column of blood. But that is still more efficiently restrained by the hood or pivot formed by the cellular sheath.

2. The crushing of the internal tunics with broad nibbed forceps.

3. The twofold compression of Malgaigne and Le Roy d'Etiolles, with the simultaneous agency of cold, or of galvanism, to promote the coagulation of the blood; a plan of doubtful efficacy.

4. Transfixing the artery with a needle to be left, *in situ* as proposed by Velpeau, or with a thread, has not been sanctioned by the Profession, and is not likely to replace the ligature.

5. The noosing of the vessel itself has been gravely advocated by Stilling. Through a small longitudinal aperture made in the artery near its margin the end is drawn, by which the former is closed, and the formation of a coagulum, inflammation, and, adhesion induced. The operation, however interesting as a physiological experiment, is inadmissible in surgical practice. [While torsion may be occasionally resorted to as a means of suppressing hæmorrhage from veins and from arteries of the second class, it is never likely to supersede the use of the ligature.—A. U.]

CHAPTER XI.

THE OPERATION FOR ANEURISM.

Operatio pro Aneurismate.

The operation for aneurism consists in the tying of the morbidly dilated artery, in order to divert the current of blood into the collateral vessels, so as to determine a closure of the artery and a dwindling of the aneurismal sac. There are different methods of operating.

1. Tying the artery immediately above and immediately below the sac, and then laying that open.

2. Tying the vessel superiorly at some distance from the pulsating tumour, namely, between it and the heart.

3. Tying below the sac, consequently on the side remote from the heart. After the discoverer, the first method is called that of Antyllus, the second that of Hunter, the third that of Brasdor.

The operation may be resorted to when the aneurismal tumour is incurable by compression, and, instead of retroceding, is advancing. It is contra-indicated on the other hand by the co existence of kindred tumours in other arteries, more especially where, besides the external, there is also an internal one; when the aneurism occurs in a person stricken in years, or shattered in constitution; when it has outrun its various stages, ceased to pulsate, and a natural cure may be anticipated; when the member in which it is situate is wasted, œdematous, and benumbed; when the main arterial trunk and the collateral branches are ossified, even although the adjunct textures be apparently unchanged; finally, when other important parts are diseased, there being carious bone for example.

The method of Antyllus is eligible only in the instance of false aneurism, which has originated through the wound of an artery, as that at the bend of the arm after bloodletting, and more particularly where the swelling is large.

The practice of tying the artery high up for false aneurism very seldom succeeds. In general, the pulsation in the tumour remains after the application of the ligature just as before, because the collateral circulation is constantly conveying a large amount of blood by the numerous anastomoses. After several operations of the kind, I have not witnessed a single case in which false aneurism was cured by the proximate or remote ligation, and after fruitless trials have always been obliged to return to the method of Antyllus.

By first laying open, then emptying the sac, and tying the vessel immediately above and immediately below the orifice, can the disease be alone cured. The mere tying above the orifice will in no wise diminish the bleeding from the wound in the artery, nor will the latter be suppressed until the inferior ligature is also applied. The only ground which can authorise the surgeon to deviate from the above course, and to tie the artery at some distance either higher or lower, is the fact of its being thickened or disorganized by inflammation. The method of Antyllus again ought uniformly to be rejected in the instance of true aneurism, whether recent or of long standing,—whether the sac be sound, or ready to give way from inflammation or gangrene. Precisely here, where this method is vaunted, is it least of all admissible. For, where an aneurism is inflamed, and tending to gangrenous disruption, not only the artery, but the whole of the surrounding parts, are diseased. The ligature cuts through

the vessel without causing its obliteration, and a dangerous secondary hæmorrhage is the result, the more alarming, because the patient must have necessarily lost a deal of blood during the operation. It ought to be mentioned, moreover, that an exhausting suppuration is almost always established at the situation of the opened and evacuated aneurism, and the limb, even when this has been surmounted, becomes frequently useless. On account of these serious consequences, amputation was wont to be performed in preference to the operation of Antyllus. The said method is, besides, perilous in true aneurism, because the latter is commonly deeply seated, and confined, for the most part, to the great vascular trunks. The nerves and veins accompanying the arteries are often blended with the thickened walls of the sac, and prone to be injured during the operation. Equally important is the proximity of a joint, as, for example, at the bend of the leg. Frequently the inflammation extends, after the operation, over the knee joint; meanwhile purulent deposits form in different directions among the muscles. Thus, in the event of a cure, the limb is anchylosed, or, at all events, fixed at an angle, with a chance of regaining partial mobility at a subsequent period.

It is, therefore, manifest, that the method of Antyllus is adapted to false aneurism exclusively.

The advantages which Hunter's method offers, in reference to true aneurism, are very great. Far from the seat of the disease and of danger, is the artery laid bare at a healthy spot, by a simple incision, tied with a fine thread, and the wound healed by the first intention. The aneurismal tumour, deprived of its supply of blood, ceases to pulsate,—collapses. The process of absorption furthers the removal of the sanguineous deposits, and of the thickened walls of the sac, and eventually reduces even very large aneurisms to inconsiderable indolent swellings.

It has been urged against the Hunterian method, by the partisans of that of Antyllus, that, in consequence of the subsequent re-filling of the sac, there is imminent danger of its bursting. This contingency has been, however, seldom observed.

The surgical treatment of aneurism has been materially aided by the new light shed on physiology by the introduction of the subcutaneous method, and which has tended to demonstrate the great superiority of the Hunterian operation over every other.

REVIEWS

The Cyclopædia of Anatomy and Physiology. Edited by Dr. R. B Todd. Nos. 30 to 36 London Longman and Co.

It has often been observed to us, that something more than a simple notice of the excellent Work mentioned above, would be a boon to those who wish to know the nature of the contents of a book before they purchase it, and especially to others who take an interest in the science of their Profession. We propose, then, to review the last six Numbers, not in their serial order, for we shall classify the articles of which they are composed under certain heads, and present our readers with separate papers upon General and Special Anatomy, Physiology, Pathology, Comparative Anatomy, and Chemistry. The contributors to the last six Numbers are John and Robert Adams, J. E. Bowman, Dr. Brinton, Dr. W. B. Carpenter, Dr. P. M. Duncan, Dr. Guy, Dr. Johnson, T. Rymer Jones, Dr. Lankester, Professor Kolliker, Dr. M'Dowel, Joseph Maclise, Simon Pittard, G. O. Rees, Wm. Trew, Professor Vrolik, Dr. Walshe, Dr. John Reid, N. Ward, Esq., and the learned Editor. We find, under the head of General Anatomy, articles by Joseph Maclise on "Skeleton;", by Dr. Brinton, of King's College, on "Serous and Synovial Membranes;" and by Mr. Pittard, on "Sesamoid Bones."

The first on the list, the article "Skeleton," by Maclise, is a very clever production; it is not as a specimen of close reasoning alone, that it is worthy of the work into whose composition it enters, for it gives evidences of a thorough knowledge of philosophical anatomy, and contains numerous well-executed sketches. Our Author's style is, however, anything but flowing, being in some places amusingly complex, often absurdly obscure, and not infrequently his sentences are utterly devoid of meaning. Oken carried oddity of nomenclature and expression, to its supremest degree; but we have to thank him for the first hint of the existence of cranial vertebræ. To Owen is the merit due of having done more than any other towards giving us a taste for the study of Anatomy as a science, for it is practised in our dissecting rooms as an art, whose principles are not understood.

Carus, Geoffroy, St Hilaire, Meckel, Nitsch, Vicq D'Azyr, and others, have, by their eccentric wording, rendered transcendental anatomy, any thing but a pleasing study; our own language can convey the most abstract ideas, without the coining of words which strike harshly upon the ears of those who have a moderate classical knowledge, and which a Greek would barely recognise. Leibnitz, Bacon, Newton, Dugald Stewart, and Pascal, each in the most simple style of their languages, conveyed ideas which have immortalized them. Why cannot our philosophic anatomists do the same? Why do they strangle their good ideas in their birth, with words suited for puffing hairdressers alone? To return to our more immediate subject, the essay before us consists of 46 propositions, each of which is indispensable to the whole, in old Euclid's style. The skeleton is treated throughout as an abstract general title, having to do with the osseous fabrics of the four higher classes of animals, and our Author's object is, "to strive to elicit the law which creates them in the character of a unity in variety, a condition of form by which the many species gather themselves together naturally into a circle, and point to some unknown oneness of character which enchains them the one to the other."

"My argument shall set out from a first proposition, through a successional enchainment of propositions, and, in the manner of all propositions taken collectively, I shall body forth an interpretation hitherto unknown in anatomical science."

Also,—

"To demonstrate the figure of unity, and give interpretation to the figures of variety which are sprung of it To this end I shall prove—1. That all the osseous skeletal forms are quantitatively unequal things. 2. That they are the unequal quantities of a greater or archetypal form,—a unity which has undergone such an infinitely graduated metamorphosis of its parts, as to yield these unequal skeletal forms. 3. That the law of formation is one of degradation of an archetypal uniform original. 4. That these unequal skeletal forms constitute the species or varieties of the unity of the archetype."

And it follows from this,—

"That when the series of archetypal quantities suffers metamorphosis at certain lines, which the creative hand of Nature draws through it, the animal design or species is struck out accordingly."

The meaning of the terms—Archetype, Homologue, Analogue, Quantity, Proportional, and Series, are, with the exception of the first, so constantly in general use as not to require any definition. With regard to the term Archetype, it is "some integer or full skeletal figure, which might be seen as containing, in its own quantitative character, the sum of all known varieties or species." A dorsal vertebra, with both ribs and piece of sternum attached, is the vertebral archetype, as we shall see anon.

Propositions 1 to 4 relate to vertebræ in general. There is a general likeness in all vertebræ; and when we place a cervical, dorsal, (with the ribs and sternal piece attached, for they have no business to be removed,) lumbar, sacral, and a caudal vertebra before us, we notice, that they are each distinguished by the presence or absence of certain prominences or quantities. "A coccygeal vertebra is only different from a lumbar or cervical vertebra by quantity; and a skeleton of a frog is different to that of a whale, by the condition of variable quantity also."

Propositions 4 to 11 refer to the classes of vertebræ especially as regards "ribs." It is first of all shown, that, by removing the costal appendages of a dorsal vertebra, we render it an artificial figure; they cannot be separated except by direct removal; they always remain in the mind's eye; for we find that the anterior half of the transverse process of a cervical vertebra is the true homologue of a thoracic rib, whilst the posterior half is that of the transverse process of a dorsal vertebra. Do not we find the anterior half of the cervical transverse process occasionally prolonged into a rib in man? —and are not the two halves of the transverse process the products of two ossific centres? All cervical vertebræ, then, develope costal appendages. It is sufficiently obvious, that what is usually termed the transverse process in the lumbar vertebræ, is not the homologue of the transverse process of a dorsal. The true homologue is the tubercle in relation with the upper articulating processes. The lumbar (so called) transverse process, is the ill-developed costal appendage, and corresponds to that of a dorsal vertebra. Both Cruveilhier and Meckel notice, that the lumbar transverse process sometimes remains articularly separate; it, moreover is, as in the case before us, occasionally prolonged into a perfect costal form. In each lateral mass of a sacral vertebra, we notice an anterior and a posterior nucleus; the former is the homologue of the so-called transverse process of a lumbar vertebra, and, of course, of the thoracic rib, whilst the latter corresponds to the lumbar tubercle and the transverse process of the dorsal vertebra. The coccygeal vertebræ are the debris, or metamorphosed remains of true and complete vertebræ; the round mass, or centrum, "holds series with the centra of all other vertebræ."

Now the first seven dorsal vertebræ, with their attached ribs and sternal pieces, have an absolute linear uniformity; there is no specific difference between them; and Maclise terms them whole, or plus, or complete vertebral quantities; they are his archetypes. Nature produces specific differences from out of this linear series of thoracic archetypes. Cervical vertebræ are minus quantities, if the archetypal vertebral form is plus; they are wanting in rib development, so also are the lumbar and sacro coccygeal vertebræ, and those dorsal vertebræ which produce asternal ribs. Maclise says, "I conclude that such species results not by the positing of new and unknown quantity, but by the annihilation or degradation of already known and posited quantity." The dorsal vertebra, with its ribs and sternal piece, —the costo-vertebral archetype,—contains within itself the elements of all other vertebræ.

In a foot note, our Author notices how and why he differs in his views of a typical vertebra, from Owen, Carus, and others:—

"I do not, for example, think it necessary to see, in the typical form, so many elements and parts as those which Owen names, in order to render it inclusive or archetypal of all varieties of vertebræ."

The German, who has to wade to philosophical anatomy through Carus, and who meets with such barbaric terms as Bogenstücke des Rüchenwirbels, Ober-sternal thiel, des Urwirbelbogens, and Seitcher Tertiar-wirbel, will be very grateful for a little simplicity. Moreover, the

opinion that Carus, De Blainville, and Meckel have advanced, that the sternum is a series of vertebræ, is no longer retainable, if we coincide with Maclise, and we must do so if we admit his 16th Proposition,—

"The mammalian spinal axis consists of a series of segmental quantities, whose only variety or specific distinction depends upon proportioning from whole thoracic quantities."

Fig. 455, shows in dotted outline at the neck and loins, the costo-sternal quantities, which, if present, would render these regions equal to, and uniform with, the thorax.

After showing, in Proposition 30, that anomaly is a link in the chain of form,—for cervical and lumbar ribs, are anomalous to the ignorant only, whilst they assist the philosophic anatomist,—we are told, as a necessary consequence upon the previous propositions, that—

"All the spinal segments of all classes and species of vertebrated animals, are only as the variable proportionals of sterno-costo, vertebral archetypes."

And then we come to the very important 32nd proposition, which is the point at which the Author and Owen seriously begin to disagree :—

"The hyoid apparatus occurs opposite to the cervical spinal region, where we know costal quantity to be lost. The hyoid apparatus refers to the cervical vertebræ, and consists of their ribs metamorphosed."

"Owen considers the first circle of the fish's throat apparatus, as the only part of it which is homologous to that of other animals, and all the succeeding arches, three or more in number, and all similar to the first, however, as appertaining to the splanchno skeleton, or that category of bones, to which the heart bone of ruminants, and the hard jaw-like pieces supporting the teeth of the stomach of the lobster, belong."

And again at pp. 114-15—

"The third inverted arch of the skull is the hyoidean. I regard it as the costal or hæmal arch of the parietal segment or vertebra of the skull."

Our space will not allow us to follow the Author of this Article further, but from the analysis of its contents we have given above, our readers will have no hesitation in according it a high place among the writings on Transcendental Anatomy.

REPORTS OF SOCIETIES.

WESTMINSTER MEDICAL SOCIETY.
Dec. 22, 1849.

F. Hird, Esq., President, in the Chair.

INTESTINAL ULCERATION IN TROPICAL DYSENTERY AND DIARRHŒA — GLANDULO FIBROUS TUMOUR—GELATINOUS POLYPUS OF THE EAR—TUMOURS IN THE FEMALE URETHRA—EPILEPSY AND PUERPERAL CONVULSIONS.

Dr. James Bird exhibited several coloured drawings, illustrating forms of ulcers, as they occur in varieties of tropical dysentery and diarrhœa. Plates *fourth* and *fifth* represented dysenteric ulceration within the tropics, originating in simple inflammatory diffused action of the follicles, and specific chronic inflammation of the same, following tubercular deposit in the sub-mucous areolar tissue; where the transformations of the mucous intestinal coat closely resemble the progress of tubercles in the lungs. These two forms of ulceration give rise to two distinct forms of dysentery, which Dr. Bird characterised by the names of the phlogistic and cachectic forms of the disease, and which require very different systems of treatment; general and local bloodletting being of great utility in the former, though very little required for the latter, in which sub-nitrate of bismuth, or sulphate of copper, with opium, frequent emollient opiated enemata, blistering of the abdomen, strict limitation to milk and farinaceous diet, with change of air and other adjuvants are specially indicated. The first case, from which plate *fifth* was taken, was one of acute inflammation preceding a state of chronic irritation, and producing severe dysentery.

Case 1st.—Gunner Larkins, aged 28, resident three years in India, was admitted into the Artillery Hospital at Bombay, on the 4th of November, 1825. He complained of having frequent ineffectual calls to stool, and of being able to evacuate nothing from his bowels but small quantities of bloody mucus; had severe tenesmus, accompanied by general tenderness of the abdomen, nauseous, sour taste, white tongue, much thirst, heat of skin, and fulness of pulse. Was bled on the first and second day of his admission, used the warm bath, had calomel with large doses of opium, followed by castor oil, with leeches and a blister to the abdomen. Died on the fourth day after his admission, in a convulsive fit, during the administration of an anodyne enema.

Inspection.—The cardiac extremity of the stomach internally presented a bright red vascularity, and the villous coat throughout was covered by thick adhesive mucus. The contents of the stomach consisted of green bilious fluid and mucus; the small intestines were natural in appearance, but distended by flatus; the valve of the cœcum was thickened and contracted. The large intestines were thickened; the mucous coat ulcerated, and such parts of it as remained entire were of a slate colour and inflamed, but without any appearance of mortification. The liver was of a reddish purple colour, diversified on its surface by white spots. When cut into, similar spots were observable, and the inter-lobular tissue between each was of a bright red. The spleen was natural. The lungs were not fully collapsed, and there was a great degree of congestion in the vessels of the pia mater. In this case the interlobular tissue of the liver was more vascular than its glandular secreting substance, and this diseased state may have been of cotemporary origin with the chronic irritation of the sub-mucous tissue of the intestines which produced the hypertrophy.

In *cachectic dysentery* the process of ulceration is connected with a more atonic state of inflammation than is observable in cases of the phlogistic kind. The aggregated or solitary follicles of the intestines are enlarged, previous to the inflammation of the mucous membrane which terminates in their ulceration, and sometimes tubercular matter deposited in the sub-mucous tissue, produces inflammation and abscesses which burst through it. In both instances the ulcers are of an oval or circular form, as in plate fourth; and cream-coloured tubercles, or small distinct abscesses in the liver, complicate this variety of dysentery. The disease frequently proves very intractable, and is less under the influence of medicine, than the purely phlogistic and hepatic varieties. Frequently one set of ulcerated follicles heal up, while others become inflamed, and renew the symptoms of dysentery, which have for a time disappeared. The following case will illustrate this variety of disease.

Case 2nd. Gunner George Geddes, aged 24, and just arrived from England, was admitted into the Artillery Hospital at Matoonga, on the 20th November, 1825. He complained of tenderness in the site of the colon; passed nothing but blood and mucus from his bowels; was suffering severely from thirst, griping, and tenesmus; had alternate chills and hot flushes, while his pulse usually numbered 86. He was bled, blistered, used mercurial inunctions, with a warm bath, and took calomel with opium, till the gums became tender. The constitutional effect of mercury appeared to increase the irritability of the bowels, and the frequency of the alvine evacuations. He died on the 26th following, being the twentieth day from the time when he observed the first symptoms.

Inspection. The body was of natural appearance, but of slender make. The cœcum, which was internally much inflamed and ulcerated, had lost its natural cohesion. In the transverse arch of the colon numerous small round ulcers were found; the sigmoid flexure was similarly ulcerated, but in a less degree. The ileum, where it joins the cœcum, had a rough warty appearance, from enlargement of its follicles. The glands of the mesentery were much enlarged, and the omentum, which was drawn up from the left side towards the cœcum, adhered to this intestine and the abdominal parietes. The villous coat of the stomach, which had lost its natural cohesion, was easily torn by the nail, and exhibited numerous purple spots, produced by effusion into the sub-mucous tissue. The liver, anteriorly, was of a reddish brown colour, and posteriorly, for several inches from its edge, was deep black. The lungs were fully collapsed, but contained several white tubercles of a soft texture. In the following case, the ulcerations in the solitary glands of the large intestines had a tubercular character, and were associated with great tubercular deposits in the secreting substance of the liver, the interlobular tissue of which was of a deep purple colour, communicating to the whole the usual appearance of the *nutmeg-liver*, as represented in Plate 2.

Case 3.—Gunner Thomas Hoult, aged 25, who had been three years in India, was admitted into the Artillery Hospital, at Matoonga, on the 10th of December, 1825. He complained of dull pain at the umbilical region, increased by pressure; had frequent ineffectual calls to stool, and passed nothing but bloody mucus. The thirst, griping, and tenesmus which accompanied these symptoms were great; his pulse numbered 90 at admission, and increased, after bleeding, to 110; and febrile heat of the skin, with pain in his limbs, was occasionally present. He was not benefited by any remedy, and died on the fifth day after his admission, and the 13th from the time he observed the first symptoms.

Inspection.—The large intestines were thickened internally, and much ulcerated. The ulcerations, which were of a circular form, varied from a line to half an inch in diameter. The villous coat between each was of a light crimson colour. The glands of the mesentery were enlarged. Numerous grey tubercles, varying in size from a pea to a pin's head, studded the substance of the liver, and were surrounded by deep purple discoloration, as represented in plate 2. The villous coat of the stomach was of a light crimson, and was softened. Ulcers of the jejunum are of comparatively rare occurrence, so much so, that Andral places them, in respect of frequency, but one degree higher than ulceration of the duodenum. The following is an interesting case of this kind, where the ulceration was of an oval form, and appeared to have commenced in the follicles of Lieberkuhn.

Case 4.—Edward Clarke, gunner, aged 24, admitted into the Artillery Hospital at Bombay on the 4th December, 1825, complaining of pain and tenderness at the umbilicus, accompanied by purging of frequent, loose yellow stools, mixed with flakes of mucus. Had a hoarse, sounding, troublesome cough, and expectorated a considerable quantity of tough yellow mucus; body much emaciated; feet anasarcous; little or no appetite; tongue clean; pulse small and irritable. Had been sent to Bombay from one of the military out-stations, where he had been under medical treatment for upwards of three months. Was the subject of frequent attacks of dysentery, since his arrival in India in 1821, and suffered much from derangement of his general health. The medical officer who attended him in the commencement of his present attack, reported that the abdomen was hard and tumid, and that the thickened state of the colon could be traced throughout its course. An alterative course of blue pill, with ipecacuanha, and gentle doses of rhubarb, were had recourse to without any good effect, and the only medicine which diminished the frequency of the motions was ipecacuanha, in ten grain doses, united with thirty-five to forty drops of laudanum. He died on the 15th of December, eleven days after his admission.

Inspection two hours after death.—The body was much emaciated.—*Abdomen.*—The villous coat of the stomach, which was thrown into rugæ, was of a light crimson colour, and somewhat softened. The duodenum and jejunum at the upper part were hypertrophied; and the mucous coat of the latter intestine was occupied by several small ulcers, which were in various states of advancement, having their origin, as it appeared, in the follicles of Lieberkuhn, accompanied by general diffused vascularity of the mucous coat. In the ileum, the patches of Peyer's follicles were generally in a state of ulceration. The cœcal valve was much contracted, and in a state of dark red vascularity; as was also the mucous coat of the colon. The mesenteric glands were enlarged. The spleen was softened. The liver, which weighed four lbs. two oz. was of a green bilious tinge throughout its texture, and exhibited on its surface a mottled appearance of red and white circles, produced by hypertrophy of the white secreting substance, and chronic red vascularity of the interlobular tissue. The right lobe contained a small hydatid. *Chest.*—The superior lobe of the right lung adhered to the costal pleura, and contained several grey miliary tubercles, some of which had suppurated. The left lung was also adherent to the costal pleura. The heart was small and atrophied.

Mr. Travers, jun., exhibited a glandular tumour, which he said presented some peculiar appearances under the microscope. It was about the size of a pigeon's egg. He had removed it with comparative facility from the side of the face, it having but one deep connexion, near the bony edge of the meatus auditorious. His patient was a lady, twenty-six years of age. It presented the aspect of a glandular

tumor, and that view of its character was confirmed by Quekett. It was, however, an interesting specimen, inasmuch as it was a rare instance of the true glandular structure changing into the fibrous Under the microscope it showed a prolongation of fibres in different directions, extending from the central nuclei or cells, meeting and decussating. Its position proved it to have been originally a lymphatic gland. (Drawings were exhibited, illustrating the process of change in the tumour.)

Mr. Harvey exhibited a gelatinous polypus extracted from the membrana tympani. The patient was a lad sixteen years of age. He had had a discharge from the meatus, of an offensive odour, for four or five years previously. This ceased on the removal of the polypus, and the boy's hearing was restored. The morbid growth did not recur.

Mr. Hillman, jun, narrated the case of a married lady, twenty-six years of age, the mother of two children, who for many months had suffered from severe pain while passing water, while walking, and at the catamenial periods, as well as during intercourse. Pain was occasionally experienced in the inside of the thighs, and in the rectum. She had been treated for gravel for some time, but without advantage. On examination there was found a thick white discharge from the vagina, and several small growths from the orifice of the urethra and the commencing part of that canal. Pain was complained of when pressure was made with the finger in the vagina against the pubes. The passage of the catheter was painful, and caused slight hæmorrhage. Chloroform was exhibited, and the granular eminences were destroyed by potassa fusa; the urethral growths being removed with their base, and a portion of the surrounding sound textures. The urethra having been dilated, another growth, about one-third nearer the bladder, was extracted. The little finger was then passed in along the canal, which was found to be perfectly clear. In the evening the patient suffered much pain from the passage of the urine over the denuded surface; hæmorrhage, to the amount of a pint, occurred the next day. A purulent discharge followed on the fourth or fifth day, when the bladder could retain about three quarters of a pint of urine. The discharge increased in quantity for a few days; by the eighth the sloughs separated, and the patient gradually got better. In two months afterwards was quite well. Mr. Hillman, jun., remarked, that he brought this case forward to show the utter inutility, in some instances, at least, of endeavours to treat disease, without previously instituting a proper examination. Here was a patient who had been under professional care for some time, and had been treated for gravel, her complaint all the while depending on abnormal growths in the urethra. There was another point worthy of notice, and that was, the occurrence of secondary hæmorrhage the next day, although very little blood indeed had been lost when the operation was performed. This, he believed, was a usual occurrence in such cases.

Dr. Tyler Smith then read a paper

ON SOME OF THE RELATIONS AND DIFFERENCES BETWEEN EPILEPSY AND PUERPERAL CONVULSION.

Dr. Tyler Smith referred to the prevalent belief that some connexion exists between epilepsy and the convulsions of the puerperal state. The two diseases are so far alike, that any one, reasoning *à priori*, would be apt to suppose that the existence of epilepsy before gestation would predispose to convulsions during labour. The author, however, pointed out, that upon a closer examination, certain differences of a marked character would be found. Epilepsy is generally a chronic, puerperal convulsion an acute affection. Epilepsy generally begins, in each attack, by the characteristic aura, whereas there is nothing like an aura in puerperal convulsions. The asphyxia is far deeper in the puerperal, than in the epileptic convulsion. In puerperal convulsion there is frequently toxæmia, or blood poisoning, with œdema of the extremities. The treatment required in puerperal convulsion is more energetic than that followed in epilepsy. The time for treatment is, in one disease, during the fit itself, in the other, in the intervals. Epilepsy is connected with the ordinary functions of the body, is generally spread over a considerable time; puerperal convulsion, on the other hand, belongs to an extraordinary function of limited duration. Still there are points under which the two diseases very closely approach each other The author of the paper followed these observations by relating four cases which had fallen under his own observation, and a number of other cases which had been furnished to him by Dr. Fleetwood Churchill, Dr. Swayne, Dr. Herapath, Dr. R. Barnes, and Messrs. Higginbottom, Barlow, and R. W. West. The facts of the cases thus detailed showed, that epileptic women are by no means necessarily subject to puerperal convulsions; that in fact they generally escaped this disease; and that the epileptic seizures disappear, or are ameliorated, during gestation. Altogether, the paper contained an account of fifteen cases of epilepsy, in which gestation and parturition had occurred. The deliveries which occurred amounted to fifty one. Of these puerperal convulsions of a decided kind occurred in only two labours, and in one, with a fatal result. In one other case there was an attack of convulsion, with three fits in succession, after the eleventh labour of an epileptic patient, who had borne all her other children without any sign of puerperal convulsion. There was a single seizure in another case, after one of five labours. In all the cases the epileptic seizures had been diminished during gestation, and in some entirely suspended. In one case the fits were frequent during the first pregnancy, but did not appear again during the whole period of child-bearing, though the woman had eleven children. The result of the other inquiries was, that in no case had epilepsy been produced by puerperal convulsions, though he had no doubt such cases might occasionally occur. Dr. T. Smith entered next upon the consideration of the reasons which led to the remission of epilepsy during pregnancy and parturition, examining the several circumstances which might possibly tend to produce this effect. He submitted, that in epilepsy within the child-bearing epoch, the fits are remarkably exaggerated by the catamenial periods, and the ovario-uterine irritation incident to menstruation He cited cases in which epilepsy had occurred regularly at every menstrual period, and at no other times. On the other hand, epilepsy is rare in perfect amenorrhœa, or in chlorosis; in which the catamenial irritation is suspended. In pregnancy, there is the suspension of the ovario-uterine irritation, the arrest of menstruation. To this suspension of irritation the author referred the relief from epileptic seizures during gestation and parturition. He referred to other diseases, depending on or exaggerated by ovario-uterine irritation, such as abortion and hysteria, which diminish, as pregnancy advances, and also dysmenorrhœa, which is often permanently cured by the rest of the ovaria during pregnancy.

Mr. Druitt, while commending the clear and lucid manner in which the author had expounded his views, doubted the propriety of separating puerperal convulsions from other forms of epilepsy, because, although none but infants can be affected with infantile convulsions, and none other than the parturient female can suffer from puerperal convulsions; yet he believed the same state of irritation from peripheral or central sources, or the same condition of toxemia, prevailed in all these cases. He was of opinion, that instances of puerperal convulsions might be fairly compared with those cases of epilepsy which occur from intense irritation, as when a severe fit of epilepsy occurs once, and only once during life, from irritation proceeding from the alimentary canal, from taking indigestible articles of food, or from drinking on an empty stomach. He had met with such cases himself in the country. He (Mr. Druitt) was desirous to ask the members whether they believed there was any connexion between scurvy and puerperal convulsions. A friend of his, in practice in the country, had found scruvy very prevalent during the existence of the potato disease, and he had also found that puerperal convulsions were exceedingly prevalent,—an occurrence which he (Mr. Druitt) thought was not to be wondered at, in consequence of the abnormal condition of the blood, which must have affected the nervous centres. Out of eighty cases of midwifery that he had per annum, there were four instances of puerperal convulsions.

Dr. Murphy had long held the same views as those promulgated by Dr. Tyler Smith. He thought the distinction between epilepsy and convulsions, was not one merely of words, but of practice. He had had cases of patients who were seized with puerperal convulsions, and some had died in consequence, in whom no traces of epilepsy could be discovered. They were strong, healthy young women. On the other hand, he had had cases of epilepsy; in one instance the fits occurred every month, and even every fortnight; and here he had anticipated the appearance of puerperal convulsions, but the patient escaped. One of these patients was seized with puerperal fever, and sunk. The distinction between epilepsy and puerperal convulsions was important in practice, as they might arise in very different conditions of the system; they might be sthenic or asthenic, or dependent on toxæmia, and the treatment that might be adopted properly in one case, would be decidedly wrong in another. The connexion between epilepsy and ovarian excitement he fully agreed in, and thought it explained the way in which convulsions were induced in healthy girls, in the same manner, in fact, in which irritation of the stomach may cause convulsions.

Dr. Barnes, in referring to Dr. T. Smith's views respecting the connexion between ovarian excitement and epilepsy, and the connexion also alleged to exist between the same excitement and the induction of labour, thought that the occurrence of labour and puerperal convulsions, both being under the same law, should be coincident. The fact, that the greater number of the epileptics at the Bicetre practised masturbation, confirmed the connexion between epilepsy and excitement of the generative organs.

Dr. Webster thought that an additional fact, confirmatory of the less frequency of epilepsy during pregnancy, would be found in the fact, that matrimony was often recommended as a cure for epileptics. He alluded to a singular case recorded by La Motte, that of a woman who was free from epilepsy while pregnant with a female child, of which she had five, but suffered from that disease all the while she was in the family way with boys, of which she had three. Epilepsy was much more frequent in France and Italy than in this country, and was frequently caused by masturbation. It was so considered in France and Germany. The conclusions drawn from the paper which had been read were, he thought, very consolatory, especially as the disease (epilepsy) is now very common, much more so than formerly. One fourth of the lunatics in the metropolitan asyla (4000 in number) were epileptic.

Dr. Cape agreed with those who marked a distinction between ordinary epilepsy and epilepsy in the puerperal state. There was a great similarity in the seizure, but the treatment was different. Children and men, and women when not pregnant, were subject to epilepsy; pregnancy, indeed, was believed to diminish the tendency to epilepsy. He (Dr. C.) inquired respecting the relative frequency of epileptic attacks during the night and day, and mentioned the case of a lady who was seized with epilepsy on her wedding night. Her husband was greatly surprised, and reproached the friends with having concealed her liability to this disease, while they, on the other hand, denied all knowledge thereof. It was not impossible, he thought, that she might have had the fits during the night, without the fact being discovered. There was not any subsequent recurrence of the fits during gestation or delivery, although she had several children afterwards.

Mr. Barlow thought the case mentioned by Dr. Cape was very interesting. There could be no question as to the greater frequency of epileptic fits during sleep; several instances of that had recently come under his observation. It was perfectly possible that the friends of the lady were unaware of her liability to epilepsy, as the fits might occur during the night for a long while without being discovered, unless by some such a symptom as a bitten tongue, a bruised finger, &c. Notwithstanding the fact that epilepsy is not followed by puerperal convulsions, nor the latter succeeded by chronic epilepsy, he thought that the puerperal convulsions only differed from the other disease in being more aggravated, the symptoms being the same, and a bitten tongue occurring as frequently in the puerperal as in the non-puerperal form. There

are not any grounds, he believed, for saying it is not a form of epilepsy. It resembled, as Mr. Druitt had said, that form of epilepsy, which occurs but once during life, from the irritation produced by a disordered stomach. Of this kind of epilepsy, he (Mr. Barlow) had seen several examples, one lately from eating bad fish. With respect to the state of the patient between the intervals of the fits in epilepsy, the patient is completely comatose. In the case of a young woman who had had repeated and very severe paroxysms lately, the attack extending over several hours, and at last ending fatally, there was deep coma between each paroxysm, every one of which was ushered in by a crowing sound such as, if it had occurred in infants, would have conferred on the disease the name of laryngismus stridulus.

Dr. Robert Lee mentioned the case of a lady he had been called on to visit, in consequence of an attack of puerperal convulsions. She had subsequently distinct epilepsy, occurring at stated intervals. He had notes of from forty to fifty cases of puerperal convulsions. Of these, there had been epilepsy in early life in three instances, in several hysteria, and in one chorea, which occurred at the sixth month, and passed into puerperal convulsions, after the expulsion of the contents of the uterus. The case terminated fatally, and the autopsy showed there was not any disease in the brain. He (Dr. Lee) considered chorea, hysteria, epilepsy, puerperal convulsions, and puerperal mania to be allied, but still distinct diseases. They might exist without the occurrence of any organic disease.

Dr. Willshire, with reference to the distinction between epilepsy and puerperal convulsions, remarked, that the aggregate of symptoms and pathological lesions, was the same in both cases, and the only distinction was in the cause; but as the cause could not be regarded as making a difference in the disease, he did not consider that there existed any real difference between the two, as they were identical in symptoms, and in their pathological phenomena.

Dr. Manson remarked, that it appeared from the observations that had been made, that convulsions were always due to irritation of the central organs, or of the periphery. The mind itself, however, might be productive of such an effect, of which he had seen an illustra ion in the person of a child, two years old, who had been frightened by a mask, was taken home seriously ill, became violently convulsed, and so died. The body was not examined after death. Epileptic children, if suddenly awakened from sleep, are very liable to be seized with a fit. He had seen a case of very violent convulsions, which occurred after the exhibition of chloroform, and after severe hæmorrhage from the partial separation of the placenta. To which of these causes the occurrence of the convulsions was due, he (Dr. Manson) was unable to say.

Dr. H. Bennet observed, that great stress had been laid on the connexion between uterine irritation and epilepsy,—a connexion which he, although having had great experience in cases of uterine disease, had failed to notice. It was not a common sequence of uterine irritation or disease. Out of 300 cases of disease of the uterus mentioned in the appendix to his book, there was not one case accompanied by epilepsy. As again, on the other hand, epilepsy is very common among males, in whom no such monthly excitement takes place, we may fairly conclude that uterine derangement has very little to do with the outbreak. Holding that opinion, there cannot be any surprise that epilepsy is not followed by puerperal convulsions. At the Salpêtrière, there were 500 incurable epileptics, sent in from other hospitals, and they gradually fell into idiotcy and mania. While he was interne there, he had not noticed any especial prevalence of uterine disorders among these patients.

The discussion was then adjourned.

The Directors of the York and North Midland Railway Company have presented 125*l.* to the Railway Fund of the York County Hospital.

CORRESPONDENCE.

NATIONAL MEDICAL ANNUITY AND RELIEF FUND SOCIETY.

LETTER FROM MR. DANIELL.

[To the Editor of the Medical Times.]

Sir,—I feel some hesitation in addressing you relative to the above Society, because it is impossible to arrive at any safe conclusions respecting it until the Managing and Provisional Committee shall have furnished their final Report.

To comment at all upon any measure which is simply in progress, and not publicly declared, otherwise than in the form of suggestions, is to my mind a questionable procedure.

If we are satisfied, the parties employed in an investigation are competent to the task, and if we believe that their standing in society places them, like Cæsar's wife, above suspicion, surely it becomes us to wait quietly the issue.

Your own remarks, and the letter of Dr. Webster, force me, however unwillingly, to say a few words.

I do not think, Sir, that either you or your readers are exactly in a position to judge of this matter; nor are you aware of the peculiar circumstances which rendered a change in the original plan imperatively necessary. In my opening observations at the Hanover-square Rooms, I endeavoured to explain the reasons, but the report of that meeting was not extensive enough to give the required information.

The fact, that the "Proposals" for the establishment of a "General Medical Annuity Fund," were made at a meeting of the Provincial Medical and Surgical Association, and intended to form an integral part of that body, was sufficiently stated; and, moreover, that an Act of Parliament had greatly interfered with the project, as a separate and independent institution, but the whys and wherefores were not stated. Now, that Act of Parliament, passed subsequently to my "Proposals," demands stringent regulations, statistical and correct data, and tables formed by a properly-authorised actuary. These were matters that never entered into my mind, nor the needs be for enrolment did I contemplate, on the first promulgation of my views. Sheltered, as I hoped the Society would be, under the wings of that important and excellent Institution, the Provincial Association, I entertained no fears for its security, no doubts as to the safety of its funds, nor to the just distribution of its dividends. Now that it has become separate and distinct, there is an absolute necessity that it should, in all its details, conform strictly to the letter of the law, since the law must, in every sense of the word, be its protector. You are not ignorant, Sir, of the difficulties under which those "Friendly Societies" labour, the rules of which preclude the possibility of enrolment. On how many occasions have the Society, called "Odd Fellows," suffered by the peccantry of nefarious members, without the least power of punishing the wrong, because, being what is called a secret Society, they were unable to place themselves under the protection of the law. I have been at considerable expense and more trouble, to ascertain how far the Society which I had organized could be protected; and, from the opinions of learned lawyers, as well as from the statement made to me by distinguished actuaries, I gathered, that under the "rules and regulations" then existing, there was no chance of the Institution receiving that protection, without which, as an honest and conscientious man, I could not continue to ask support.

It was this fact which determined me to seek assistance in London; and it was this fact which directed me to draw up the "resolution" to which Dr. Webster has referred.

I must beg, sir, to demur to the statement, that we are forming a *new* Society—we are doing no such thing. We are simply remodelling the Institution, to render it conformable to the law. It was a self-supporting Society which I advocated—*not a charitable one.* It is true, that under one head, I combined co-operation and benevolence; but, mark you, even those, who in the first instance might contribute their money as a simple act of charity, were still eligible to become recipients, if adverse circumstances compelled them to become applicants; and who is he that can defy fortune, and say that neither he nor his offspring will ever need the helping hand? The man on the woolsack may carry a wallet—the world is full of histories of humbled greatness—of kingly beggars.

The "Report" to which you have alluded has shown that I was in error as regards my calculations. I bow to the "Report," for I regard it as a splendid indication of the talent and ability of the parties by whom it was framed. Neither am I mortified by the manner in which it has handled my project; for what is my aim? Not victory, but truth; not to establish a false principle, but to seek out one that shall be stable, let it spring from what source it may. The true principle by which I have been actuated, is pure in its original integrity: the error is in the action: Plato says, and says justly, "Better to err in acts, than principles." You, Sir, like me, have seen the necessity of establishing a National Institution for our decayed brethren and for widows and orphans. Many excellent papers have appeared in your Journal, advocating an Institution for this purpose; thus I take it for granted our *principles* are identical,—let us hope there will be an identity in our actions also. This is not a time to fritter away opportunities, or allow of either party feelings or party prejudices. Thank God! the ground is neutral; and the aim—to ameliorate sufferings amongst medical Practitioners, whether they walk in the aristocratic circle, or their field of operation be confined to the humble or the low. We can afford to lose no assistance—whatever views, or whatever opinions men have, let us have the advantage of them, that by our combined energy, good may be done. Never was that old nautical maxim more needed than now:—

"A long pull, a strong pull, and a pull altogether!"

It requires neither the force of eloquence, nor the exercise of shining talents, to prove the *necessity* of the institution we contemplate. Facts, of the most startling import, have intruded themselves upon us, and cases so singularly touching in their awful reverses come upon us like dark clouds dimming the medical horizon, that who can behold them unmoved? Fancy a physician dying at Liverpool, without sufficient effects to purchase a coffin or a grave; and mark the exit of Walker of Manchester, of Howell of Bath,—men who rose upon us like dazzling meteors, because of the brilliancy of their talents, and like meteors, alas! shone but too briefly. It is well known each of these gentlemen did not live long enough to make provision for their helpless widows, and still more helpless children.

Inquire into the fever districts, where the Irish plague revelled so freely, and, still later, enter the homes of many of those active and enterprising men, who, with noble devotion, strove to mitigate and arrest the fearful pestilence, now hardly stayed amongst us. Are there no widows, no orphans to be found there? I trow yes. Widows, plunged from comparative prosperity to the depths of indigence and sorrow. Children deprived of their parent head, partially educated, refined in feeling and in thought, shrinking as it were before the rough blasts to which they are so painfully exposed. If the true seeds of knowledge have been sown, how ardent is the thirst for further acquisition.

"But knowledge to *their* eyes, her ample page,
Rich with the spoils of time will ne'er unroll,
Chill penury repressed their noble rage,
And froze the genial current of the soul."

To overcome these fearful calamities, to provide against such contingencies, is the great aim of those who have hitherto been associated with me in the establishment of an "Annuity Institution," and I am equally and firmly convinced that such is the object of those gentlemen who are now giving their time and attention in weekly meetings to this subject. I sincerely hope, Sir, their valuable services may not be lightly considered. Whatever opinions other parties may entertain as to the best mode of accomplishing the object we have in view (and I, for my own part, reverence and respect every man's opinion, honestly and freely given), I implore them to believe, that if their aim be good, we are not so wedded to our own projects as to deny to them a legitimate hearing or a legitimate inquiry. Human judgment is fallible always; but there are approaches to perfection, and towards that condition we gladly hasten.

What is done, then, let it be done in the true spirit of co-operation, avoiding all that is personal; seeking but the advancement of a fixed and permanent good; bearing in mind that the well-being of the widow and orphan *must not* be jeopardised by any division unworthy of ourselves.

There is a great stake at issue. A noble Institution to be re-organised, which may not only benefits the present generation, but shall extend its blessings to all posterity.

My hope and prayer is, that we may go to this undertaking in the true spirit of Christian love, in that "charity which suffereth long, and is kind, vaunteth not itself, is not puffed up, not easily provoked, thinketh no evil, beareth all things, believeth all things, hopeth all things, endureth

all things." If, like a holy mantle, we seek to cover ourselves with this spirit, then will God's blessing rest upon our labours, for we shall have "one heart and one mind," and our determined resolutions will never flag, until the great and glorious object be achieved—that object which has upon it, in an especial manner, the benedictions of the Most High.

I am, Sir, your obedient servant,

EDWARD DANIELL.

Newport Pagnel, Dec. 24, 1849.

LETTER FROM MR. ROSS.

[To the Editor of the Medical Times.]

SIR,—I must confess that I was somewhat surprised to find, on perusing your Journal of last week, that the aspiring President of the defunct British Medical Association had made me, through yourself, the object of his unmannerly hostility. It is difficult to say in what proportions his censures should be appropriated, so dexterously has he contrived to implicate two individuals in the culpability of one crime. I have no doubt that you have smiled at the artfulness of the assault, as much as I have at its petulent asperity. It is certain, however, that no shaft was ever forged in the Dulwich armoury, with a point keen enough to pierce the skin of the most sensitive publicist; and even though it should be tipped with gall, and feathered with malice, it would require a stronger arm than the doctor's to send it to its mark, and to impregnate the character of an honest man with its venom. I will not condescend to the vulgar personalities which Dr. Webster has directed against me; for, although by his adoption of this species of attack, he may deem that it is becoming to his character, I can assure him that it would only disgrace mine.

What have I done, Sir, to call down upon me the injurious insinuation and evil-working insult of Dr. Webster? Your reporter was present at the General Meeting of the Medical Annuity Society,—I call upon him,—I call upon Dr. Forbes, the Chairman, or upon any gentleman who was present at that meeting, to declare whether I used a single phrase, in the course of my remarks, that could be construed into a personal reflection upon any member of the Profession? Was there, in particular, a single word censorious of Dr. Webster? If there were, why did not Dr. Webster, or some other individual, repel the offensive accusation at the time and on the spot? Again, Sir, I ask your readers, what expression there is in that exceedingly dry and brief epitome of my speech published in the *Medical Times*, that can be considered, in the slightest degree, of an injurious personal tendency? There is nothing of the kind, and Dr. Webster knows it; although—but I will not lay another man's heart under the scalpel of criticism, and dissect all its disguised motives. The occupation were an ungracious one, and would not repay the trouble. Every candid man will promptly admit, that Dr. Webster's epistle, in which he infers that your leading article upon the subject of the Medical Annuity Society was written by me, whom he further describes as a "disappointed person," governed by "vanity and self-love,"—for I have too much contempt of calumny to hesitate to accept a slander which is intended for me, but which the author of it dared not openly to pronounce,—is the channel of a gratuitous and unprovoked insult; and although, as a man and a public labourer, I am entitled to repel it with chastisement, I prefer to forgive the offence, and to regard it as an indiscretion of which the learned gentleman himself, if he have any sense of shame, has, by this time, heartily repented of. The aspersion can do me no harm, although, by singling me out for an opponent, Dr. Webster may acquire the notoriety he covets, and do himself some service.

I must now claim your space, Sir, to contradict the mis-statements in Dr. Webster's letter; and, inasmuch as that gentleman has shown a fretful sensitiveness in respect to your charge of mis-statements appearing in the Report of the Sub-committee, I trust that if I can substantiate a similar accusation, founded upon the assertions in his own letter, a fair presumption will be established, that your allegations in reference to the Report were correct; for it can scarcely be assumed, that any two men could be found guilty of precisely similar misrepresentations.

Dr. Webster has stated, that I failed in the object of my speech, and that I stood alone in the views I professed. This is not wholly correct. I willingly admit that no following speaker supported my sentiments, nor did I expect that any would; for my experience of public business has convinced me that no single individual can succeed in gaining much sympathy for antagonistic opinions, or in reversing the decisions of a Committee in any public meeting, even although larger than that at the Hanover-square Rooms, at which, I should think, more than three-fourths of the members belonged to the Committee, and nearly one-half to the Sub-committee, who, in mere consistency, were pledged to the statements contained in their printed Report. I wrote to Mr. Daniell, expressing my conviction that I should stand alone in the position I intended to take up, and I have more satisfaction in making a sacrifice for the integrity of my own understanding than any man can have of a feeble subserviency to the views, right or wrong, of other men. That I failed, however, is a bold and an untrue statement. Powers were given to a Provisional Committee to carry out the resolutions of the meeting, with "such modifications" as might be deemed expedient, and it was specially suggested to me, before the resolution was put, that this qualification would meet my views, and it was upon this ground alone that I consented to my name being placed upon the Provisional Committee. Does Dr. Webster wish to deprive every gentleman of the right of expressing opinions at variance with the conclusions of a governing body? or, does he think that it becomes every man who desires to offer counsel to assume the attitude of a bully, to move amendments without end, and to carry on a factious opposition to every proceeding not accordant with his own opinions? If so, the Profession have discovered the key to many an act in the Doctor's political career.

Again, the Doctor says that Mr. Daniell "has tried the scheme" that I propounded, and he seizes the opportunity to stigmatise me because of Mr. Daniell's failure! Generosity and truth are equally despised by the man who could deliberately write the sentences conveying these imputations and assertions. The statement that my plan and Mr. Daniell's are the same is contradicted by the whole tenour of my arguments, and is wholly inconsistent with the brief report of my observations given in the *Medical Times*. Let the facts speak. In the first place I declined to join Mr. Daniell's society, although the subject had been urgently and repeatedly brought under my notice by that gentleman, because I felt assured that the plan of the Society was faulty, and that it must eventually fail; and I would not be responsible for recommending to the Profession a scheme which might, however unintentionally, "deceive by false hopes;" and, for the same reason, I opposed the projects of the Sub-committee, which, by running into an opposite extreme, were equally repugnant to my views. In the second place, I actually complimented the Sub-committee for advising the separation of the Fund for Widows and Orphans from that for Disabled Members,—the union of which was the cardinal error in Mr. Daniell's scheme; and yet Dr. Webster directly accuses me of this absurdity! This separation effected, I maintain, now as then, that the principle of a small premium for an annuity, contingent upon the nominee's possessing a certain amount of income, so as to constitute an absolute security against destitution, is a far better principle to meet the exigencies of the less fortunate members of the Profession than that proposed in the Report. This is an opinion, and, even it wrong, I ought not to be undermined by misrepresentation or assailed with invective. The bad taste that could be guilty of either deserves my compassion and has it.

Dr. Webster again says, that I contended "for an institution that should be partly supported by an annual payment of one guinea, and partly by the charity of the public and the richer members of the Profession." I deny it. I uttered not one word about "the charity of the public" during the whole evening, and never intended that it should form an integral constituent of the plan I then outlined. If Dr. Webster wish it to be inferred, that charity is a necessary condition of such a scheme as I ventured to discuss,—and this is all that he can mean,—then I presume that my arguments were not understood by him, or, if understood, thought of no value; or, if thought of value, purposely rejected, that he might not lose an opportunity of indulging in his very facetious humour, and of reiterating a taunt which he thought too good to be lost. How can that be considered a system of charity which confers an eligibility for the benefits of the Society only on those who are enrolled members, and have subscribed regularly to its funds? It is the performance of this compact that gives every member, or his nominee, an *equal right* to an annuity; and this right can be qualified, or lost, only in accordance with certain other terms of the compact, to which all parties, on entering the Society, give their unconditional assent. Charity, indeed! Because one man loses a right, in compliance with a written engagement or law, another man, who simply preserves his original right, becomes an object of the disqualified's charity! By a similar species of argument, it might be proved, that each honest man owes his civic rights and liberties to the charity of some fettered rogue, who suffers incarceration and the whip from a loving purpose towards his fellow-men. This is a logic at which Scotland should blush for shame, and cover her head with ashes. It is very clear, that a penetrating genius of this kind is not sufficiently honoured by the task of establishing an Assurance Office.

Another assertion which the Doctor makes is already refuted. He says, "Several gentlemen *did reply* to them, (my arguments,) and that to the satisfaction of the meeting," &c. If my arguments were replied to, they certainly were not answered; but I maintain, that the assertion is totally incorrect. One gentleman, I admit, got up a sham display against me, by setting up the bugbear of benevolence,—in fact, precisely the same topic that Dr. Webster has assumed as my weak point,—and he endeavoured to fix upon me the responsibility of this principle. I disdained to notice publicly this palpable misrepresentation, as I did not imagine that any one could have been deceived by it, and I did not desire to extend an unprofitable discussion. That Dr. Webster should have adopted the same I had almost said unscrupulous system of dialectics, only proves, that, when men have once acquired a prejudice in favour of error, they love it for its own sake, and will not take the pains, if they have the inclination, to set themselves right. I assert, however, that the mis-statements which I pointed out in the Report remain to this day unexplained and unanswered.

One more remark, ventured by Dr. Webster, also demands notice, as it is made the medium of an attempt to cast a stigma upon myself. The Doctor says, that Mr. Daniell showed "rare magnanimity and singleness of purpose," in abandoning his old scheme for a new one. To this I have only to remark, that if any man be convinced that his opinions are false, it is his duty to relinquish them; but if, on the other hand, he believe them to be right, and renounce them in mere acquiescence with the representations of other men, he is guilty of treason to his own conscience and to truth. Mr. Daniell is a man whom I so highly respect, that I would refrain from loading him with ostentatious eulogies, as they might only impede him in his future career of usefulness. I am sure, that among his other estimable qualities, he possesses the manliness not to suffer his name to be made the vehicle of slander towards either a private friend or public opponent. I now take leave of Dr. Webster's letter, with but one doubt on my mind, that I may have reflected too much importance upon its puerile obloquy by stooping to notice it with so much minuteness and conventional toleration.

Fear of occupying too much of your space prevents me from entering upon an analysis of the Sub-committee's Report, as I had intended; but, if Dr Webster be discontented with this letter, I shall be glad to write another upon the same subject, and I hope that I shall then acquit myself more to his taste and satisfaction. I now repeat, that there are numerous mis-statements in the Report; but I am quite willing that the document should remain entombed in the sepulchre of its own worthlessness, whence, I am well convinced, no individual but Dr. Webster will think it worth his while to drag it forth with all its sins upon its head.

I am, Sir, your most obedient servant,

GEORGE ROSS.

THE RIDGWAY-HOUSE ASYLUM.

[To the Editor of the Medical Times.]

SIR,—I am obliged to you for proposing to allow me the use of your columns for the purpose of setting myself right with the Profession and the public as to the abuses reported to have been found in my Asylum by the Chairman of the Gloucester Quarter Sessions.

I deny most positively that such abuses have existed, or that anything has been observed in my Asylum, or in reference to my patients, which would have called for notice in the public report of any considerate and well-intentioned visitor.

It is about twenty years since my attention was more particularly directed to the treatment of insanity, and during the greater part of that time I have received a limited number of patients in a licensed house. The object that I have kept more particularly in view, and which, indeed, was one of my main inducements for entering on this branch of practice, was to ascertain and to demonstrate how much the ordinary treatment in asylums might be improved upon, and how much restraint, and the

appearances of restraint, those appearances which form repulsive features in many Asylums, might be advantageously dispensed with. It was my practice, therefore, to receive my patients as friends and visitors in my family, and to endeavour in all cases to exert an influence over their minds by uniform attention and kindness, tolerating their presence in the family circle whenever it was possible to do so, and subjecting them to no restraint in general, beyond a temporary retirement in their private rooms when requisite. The results of this treatment, and many circumstances connected with it, would not be uninteresting to your readers, and I may possibly, at some future time, bring them before the public. It will be sufficient for my present purpose to state here that every patient I had for several years under my care, expressed, more or less perfectly, according to the mental state of each, his or her satisfaction and gratitude for the kindness received. Every patient, I believe without exception, who has left my care (unless Mr. Hayward, who is mentioned in your paper, should still be sufficiently under an adverse influence to withhold it) would now give his testimony in the strongest terms. But its truth may be inferred from a simple fact, which speaks volumes. Several of my patients, after more or less perfectly recovering, have preferred making my house their permanent residence, some of them for years, and have finally left it with expressions of the deepest regret. And others voluntarily, and entirely of their own accord, placed themselves under my care, of course without certificates, or being liable to restraint. It was not illegal, before the passing of the late Act, for persons thus voluntarily to remain in, or to enter licensed houses, though the Commissioners objected to it as a practice liable to abuse, and the late Act has made it penal. Doubtless the opinion of the Commissioners is entitled to great respect and deference, and was probably formed from a consideration of the circumstances of many Asylums, and the difficulty of framing and enforcing regulations to prevent anticipated abuses; yet it may be questioned whether, in obtaining the above-named enactment, they have not given a fatal blow to the greatest improvements of which Asylums are capable.

Without, however, entering on the arguments *pro* and *con* in this place, I must proceed to state, that the discussions on this point, and the interruption of my plans, on the success of which I had justly prided myself, both by the interference of the authorities, and especially by the passing of the new Act, rendered it necessary that I should make some important changes in my establishment; and thinking that, on several accounts, a residence near a great city would be advantageous, I was led to take Ridgway-house, near Bristol, an Asylum which had been established many years, and whose then proprietor was disposed to retire; and the neighbourhood of which enabled me to secure a private residence suitable for my family, and a limited number of nervous invalids, or other friends, who might wish to reside under my roof. Here I hoped to be able to carry out my views and plans successfully, (as, indeed, I did for the space of about three years,) little expecting to meet with the extraordinary and most unwarrantable interruption that I have lately done.

I must here state, that, although Ridgway-house had been licensed for many years, it was not in itself in a satisfactory state for the purposes of an Asylum, some parts being old and incommodious, and the whole requiring great alteration and improvement; but the conveniences of its situation, its healthiness, and retirement, the beauty of the surrounding scenery, and the extent of land, consisting of about fourteen acres of garden and grounds attached to it, decided me to undertake its occupation, with a view to make the necessary improvements; and it was my intention to begin those improvements on my taking possession. This, was fully known to the Visiters; and builders in the neighbourhood can testify, that one of the first things I did was to obtain tenders for the re-building of part of the premises. Circumstances, however, prevented me from making the arrangements necessary for that purpose, until I had had possession for nearly three years, when I succeeded in purchasing the property, and immediately began to carry my plans into execution by the erection of a new wing to the house. My intention to re-build those parts of the house which were the most old-fashioned and least convenient, prevented me from doing more than was necessary to make them comfortably commodious for my patients, while those apartments which had been usually occupied by the family of the proprietor, furnished accommodation for the better class of patients. I even gave up my library, and occasionally my own bedroom, when pressed for room, for their use.

Three things require to be particularly noted here:—In the first place, I had discontinued the use of some of the more objectionable apartments, which had been formerly occupied by patients, and had greatly improved their accommodations altogether, as the Visiters invariably and decidedly testified. Secondly. The patients were all perfectly satisfied and comfortable in their apartments, and received such care and attention, as made them generally happy and contented, and promoted the recovery of several that were curable. Thirdly. The state of the house had been uniformly remarkably healthy during the whole of my residence in it.

Now, it is important to mark these circumstances, because it was just at this critical period—a new wing being half erected, and the house in this transition state—that Mr. Purnell made his first visit.

It will be easily understood, that, to the fastidious eye and prejudiced mind of an individual, whose evident object was to find fault, and to make startling and astounding reports, many things in such a house might appear objectionable, and afford food for invidious remark; and so, accordingly, Mr. Purnell did not neglect the opportunity of furnishing himself with many topics of complaint. But I would ask, whether any discreet, judicious, and right-minded man would have deemed it proper to make any report at all in such a case? What was his object?—to improve Asylums? Here he had found one more effectually bent upon that object than himself, inasmuch as, while *he* was only vapouring and producing excitement, the other was setting about, in good earnest, to lay the foundation of substantial improvements.

Would any sober-minded man have attacked and abused, and made publications detrimental to the interests of a person so employed, and of his establishment?—publications tending to damage his reputation, and effectually to cripple him in his progress.

It was in this description of Ridgway-house that the passages occur which you notice; if there were no fixed baths in the house, Mr. Purnell might have felt assured, or might have ascertained, if he had any doubt, that such were included in my plan of improvement.

The history of the hen laying her egg in the moveable bath, was too trifling a circumstance to be gravely noted, and recorded; but, if worthy of notice at all, it should have been ascertained and stated, that it was a freak of the patient's, Mr. Hayward, who being indulged, as far as possible, in all his fancies, was allowed to keep fowls and rabbits in a court adjoining to a carpenter's shop, which he also used; and, as the bath was kept in an apartment through which he passed to his shop, he, indulging his propensity to turn things to uses for which they were never intended, had slyly made a nest in it for one of his hens, and thus furnished a notable incident for a Visiter's report!

The next statement respecting Mr. Hayward, that he was confined in a close and offensive room, is retailed upon his own authority, and would have been disproved by the attendants and others in the house, if the object of the inquiry had been to elicit the truth.

That the Chairman should, in his last report, have again ventured to say, that he was "strong in body, and sound in mind, as many witnesses can testify," after he had himself stated the evidence of Dr. Green to the contrary, and after proofs innumerable had been given to the same effect from a variety of sources, does seem inexplicable on any ordinary principles of reasoning or conduct.

You seem to adopt the Chairman's notion, though you have probably not considered the liberal sentiments, and the decent and respectable compliments to the Medical Profession, on which it is grounded and enforced, that no medical man, keeping an asylum is fit to be entrusted with the medical care and superintendence of his own patients; and you seem to lose sight of the fact, that all the great modern improvements in treatment have been brought about by medical superintendents of asylums; and if further improvements are to be looked for, as it is to be hoped they are, the first enactment of the Legislature should be the prospective exclusion from the conducting of asylums of all but medical practitioners. But, then, let me ask, what medical man would consent to take such a charge, especially if it was a pursuit he took up *con amore*, and from benevolent and praiseworthy motives, if he were to be made by law an inefficient cipher in his own establishment? It is easy for crotchety and superficial individuals, who are capable themselves of doing nothing with propriety or common sense, to make crude suggestions for the regulation of establishments respecting which they have no experience. But it is a pity such notions should be adopted by respectable and influential persons.

What I have to complain of is, that Mr. Purnell has, with an unfairness most reprehensible, classed my asylum—and has pointedly and repeatedly gone out of his way to do so,—in which, with all his inquisitorial researches—he could find no case of unkind or harsh treatment of a patient,—with other asylums, in which he alleges, whether truly or not, that such treatment prevails—that he has taken the unsupported statements of insane, weak-minded, and interested individuals, and has founded his report upon their unworthy testimony, and, not only so, but that he has eked out, and made up their deficiencies according to his own prejudiced views, by his own inferences, insinuations, and conjectures. That his inferences and conjectures are every one mistaken and unfounded, and that his reports, professing to relate facts, degenerate into foul and calumnious libels upon myself and other unoffending persons; that when the true state of the case has been pointed out, and has been even proved, or proof tendered, Mr. Purnell has not been willing in any respect to correct his views, or to withdraw and modify his statements; and that, when I have appealed to the other visiters or the magistrates in sessions, they have acted upon the resolution, that it was better for them to support their Chairman, even in wrong doing, in injurious oppression and cruel misrepresentations, rather than do an act of simple justice to a persecuted individual. That finding such to be the case, I have thought it necessary rather to give up my license, and break up my establishment, than to continue subject to the invidious reports, and the insolent and overbearing conduct of persons, whose behaviour in my house towards my inmates and myself, has been the reverse of every thing that was becoming in magistrates, gentlemen, or men.

Conscious of no wrong towards any of my patients, having invested my property in an asylum, and having devoted myself to a pursuit towards which I was originally attracted, and to which I had become, by habit, much attached, from motives very different I hope from those attributed to me by Mr. Purnell, and which he probably can neither appreciate nor understand, I have made a sacrifice—I have given up my pursuit, rather than maintain a position in which I was subjected to insults and injuries, which no man of gentlemanly feelings could longer tolerate.

Mr. Purnell, in the course of his inquiries at my house, has, in my opinion, done the most injurious thing possible to two unfortunate individuals whom he caused to be liberated from salutary restraint. A brief history of these persons, and of the circumstances connected with their discharge, I will, with your permission, make the subject of a future communication. In the meantime, I hope that what I have above stated, will induce your readers to suspend their judgment, as to the accuracy, the good sense, or the utility of Mr. Purnell's reports and labours.

I remain, Sir, your obedient servant,

GEO. S. OGILVIE.

Ridgway-house, Dec. 19, 1849.

[The Report of the Gloucestershire Magistrates is either true or it is not. Coming as it does before the public stamped with authority, it is calculated to produce an impression on the public mind anything but favourable to private asylums. If the statements made concerning Mr. Ogilvie's establishment have been made without regard to truth, we hope that gentleman will speedily set himself right with the public and with the Profession, and we shall feel great pleasure in affording him all the assistance in our power.—ED. *Med. Times.*]

ON THE USE OF HYDROCHLORIC ACID IN CHOLERA.

[To the Editor of the Medical Times.]

SIR,—I consider it the duty of every medical man to state, in these awful visitations of cholera, the treatment he has found in his own practice most efficacious in this dreadful disease. Under this conviction, I shall make no apology for troubling you with the statement of my own experience, in the hope that others may be induced to adopt similar treatment, and as I conscientiously believe, mitigate, if not wholly relieve, much human suffering, and arrest the hand of death.

When cholera first made its appearance in this town, I, being Surgeon to the Bridgwater Union Workhouse, had many cases under my care of

malignant Asiatic cholera, for which I tried the various remedies most approved by the Profession, but confess with most unsatisfactory results. Under these circumstances, I was induced to attempt the investigation of the disease by the examination of secretions and excretions of diarrhœa and choleraic diarrhœa, and found a marked difference between them, those of the former being acid, the latter alkaline; and that, by the aid of the microscope, crystals of the triple phosphates of lime were observable in those of choleraic diarrhœa. These crystals are ably depicted by Dr. Brittan, in his late paper on "Choleraic Bodies," published in the *Medical Gazette*. Finding, from experience, that, when these crystals are observable in the urine, they have disappeared by the use of hydrochloric acid, I determined on giving this acid a trial in cholera, inferring that, if alkalines were useful in acid diarrhœa, acids may be likewise so in alkaline diarrhœa, which is Asiatic cholera.

The formula used in 23 cases of cholera and choleraic diarrhœa was—℞ Acid hydrochloric, ℈i.; tinct. opii; aquæ, ℥vij.; chloric æther, ʒiij. M. ft. mist. Two tablespoonfuls to be given every half hour, with one grain of calomel, if the case were severe, or when the cases were less severe, without calomel every two hours, as long as purging and sickness continue. The result of this treatment has been three deaths, and although these fatal cases were considered hopeless from the commencement, yet relief was experienced by the use of the acid mixture, and the others rapidly recovered without fever, which so frequently follows other modes of treatment.

Should this treatment be thought worthy of a trial by the Profession, a report of the result, either in your most useful Journal or to me, will greatly oblige,

Sir, yours truly,

ABRAHAM KING.

Bridgwater, Nov. 15, 1849.

P.S.—Mr. Heard, chemist, of this town, has suggested the *modus operandi* of this treatment, viz., that the alkaline state of the system affords a solvent for the acid, making common salt, which supplies the serum of the blood with that salt which is so suddenly abstracted by the disease.

MR. McCLURE AND THE CHOLERA IN PLYMOUTH MARINE BARRACKS.

[To the Editor of the Medical Times.]

SIR,—As Surgeon having the Medical charge of the Plymouth Division of the Royal Marines, I feel myself called upon to correct mistakes made by Mr. McClure, Assistant-Surgeon, R.N., at page 473 of your Journal of Saturday last, where, in a paper on the cholera at Torpoint, Devon, he imputes neglect of due precaution on the part of the medical officers, and, indeed, of the officers in command of the division.

I beg to state, that every means that human foresight and knowledge could devise was adopted to prevent the spread of cholera spasmodica. Colonel Fergusson, the Colonel Commandant, on the appearance of the disease in the district, ordered every object which was likely to form a "nucleus" to the cholera to be removed from the barracks; the drains were flushed three times a week, and a plentiful supply of lime was furnished for these localities on all occasions, and, at certain points, the chloride of zinc was used. The whole of the men of the battalion were paraded and narrowly inspected three times a day. I explained to them the necessity of reporting any symptom of disease (and especially in regard to bowel complaint) with which they themselves, or their families might be affected, without delay, to the medical officers.

The men's quarters in barracks were inspected three times a day by commissioned officers specially appointed for the purpose, and the private quarters of the men living in the towns were examined each day by the commissioned officers of the respective Companies, who directed whitewashing in the rooms, which was performed twice a week, with lime supplied by the Commandant, and on all occasions the commissioned and non-commissioned officers were directed to report any man who looked ill or complained.

Mr. Kevern, Surgeon, R.N., and the Assistant-Surgeon, Mr. Kay, R.M., by judicious arrangements, were, in the private dwellings in every quarter, supplying the chloride of zinc, and giving information respecting ventilation, &c.

The diet of the men in barracks was increased and changed, free ventilation was carried out under my own inspection, and, by the addition of the chloride of zinc to the ordinary means of cleaning, the state of the rooms was such that the most fastidious could not have found fault. The bedding was aired on such occasions as the weather and the duties of the battalion permitted; in short, every means was used to keep the men of the battalion as much as possible under the superintending eye of the commissioned and non-commissioned officers, and, as is usually the practice where troops are stationed during epidemics, orderlies were selected from the most experienced and steady men to prevent straggling into infected districts, and to guard the privies.

As regards the men being carried into the Naval Hospital in a state of collapse at the beginning of the epidemic, I have to state that such was not generally the case, as a great part of the men were willing, and many quite able to walk into the Hospital; and some who ultimately died of cholera actually did walk there, being at the time merely affected with diarrhœa, which, however, merged into cholera, after admission. Every effort to avoid delay was used by Mr. Kevern, Surgeon, R.N., and Mr Kay, Assistant-Surgeon, R.M., in conveying the men attacked if different, and sometimes distant parts, to the Naval Hospital.

I am at a loss to know from whom Mr. McClure derived his knowledge of the hygienic regulations of this battalion, and it would have been better had he made himself acquainted with this subject, previous to bringing it before the public.

The average strength of the battalion, during the epidemic season, was 1,267. Of the total, 2·56 per cent. were attacked with cholera. 523 resided in Stonehouse barracks; of these, 2·86 per cent. were attacked in their barracks; 163 resided in Mill-bay barracks; 6·13 per cent. were attacked in their barracks; 60 were officers, 385 were married men in private quarters in the towns; 136 were in sick quarters and on leave of absence; of this total, 1 2 per cent. were attacked. Six men were attacked when on duty in various situations, giving a per centage of 47 to the total strength.

Between four hours and a half, p.m., of the 9th, and seven hours and a half, a.m., of the 10th of August, eight men were attacked with cholera in these barracks, and again, two on the 12th, and four on the 13th, and one on the 24th of the same month. These men had undergone the inspections of the parade and their rooms, amounting to six times during the twenty-four hours, without exhibiting signs of illness, and I believe had no premonitory symptoms, beyond those reported by me to the inspector of Hospitals.

With the exception of the sick and those on leave of absence, every man came under the serveillance of the officers in the discipline described.

I remain, Sir, your humble servant,

ANDREW MILLAR, M.D., Surgeon R M.

Royal Marine Barracks, Plymouth, 17th Dec., 1849.

UNIVERSITY OF LONDON.

M.D. FIRST EXAMINATION.—PASS EXAMINATION.—1849.

Monday, November 26.—Morning, 10 to 1.

COUSIN AND BUTLER.

Examiner, Rev. H. ALFORD.

1. Give a general account of the Essay on the Human Understanding; specifying its place in the history of Philosophy, the school to which its author belongs, its principal divisions and positions.

2. How does M. Cousin state the order in which psychological inquiries should be undertaken? Has Locke observed this order?

3. "Ma conclusion, que je ramène sans cesse, est que Locke prend évidemment la conséquence pour le principe, l'effet pour la cause. Et remarquez que cette confusion est une nécessité du système de Locke."

Translate this, and exemplify it in the various instances elsewhere adduced by M. Cousin.

4. Define, according to Locke, simple and complex deas:—give M. Cousin's remarks on this definition, and your own criticism of them.

5. "En général, l'école *sensualiste* est *nominaliste*, et l'école *idéaliste* est *réaliste*. Des deux côtés toujours de l'incomplet et de l'exclusif; moitié vérité et moitié erreur."

Translate this; explain *fully* the words in italics, —and M. Cousin's assertions regarding the two schools.

6. What is *Analogy?* Is Butler's argument a fair application of it? Is the following?

"Atqui, ne corporis quidem morbos veteres et diu auctos, nisi per dura et aspera coerceas: corruptus simul et corruptor, æger et flagrans animus, haud levioribus remediis restinguendus est, quam libidinibus ardescit."—*Tacit. Ann.* iii. 54.

7. Give the substance of Butler's remarks on the government of God by rewards and punishments; and of his general conclusion to Part I. of his Analogy.

Monday, November 26.—Morning, 10 to 1.

Examiner, Mr. BURCHAM.

BACON AND STEWART.

1. Enumerate the different *Idola* mentioned by Bacon, and point out the causes or sources of the *Idola Tribus?*

2. Into what three kinds does Bacon divide false philosophy? Give instances of each.

3. The causes of error in philosophical inquiry specified by Bacon. The causes of the slow progress of human knowledge, and especially of mental philosophy, specified by Stewart.

4. Distinguish between the original and acquired perceptions of sight. How do you account for our seeing objects erect by means of inverted images on the retina?

5. Enumerate the laws which regulate the succession of our thoughts. What is meant by *simple* and by *relative suggestion?*

6. Is the moral faculty an original principle of our nature, or is it resolvable into any other more simple principle or principles? Give your reasons for or against either opinion.

COMMENTARY ON A CASE IN MEDICINE. CELSUS DE RE MEDICA. CASE IN MEDICINE.

Monday, November 26.—Afternoon, 3 to 6.

Examiners, Dr. BILLING and Dr. TWEEDIE.

W. S., aged 19, when he applied for advice, stated, that about fifteen days previously, without evident cause, he became indisposed with general symptoms of fever, followed by pain in the right lumbar region, and dry cough. His skin was hot, his pulse quick and sharp, his tongue furred, with loss of appetite and thirst; his bowels were regular, but his urine was scanty and of a deep red colour. When placed on his back, he complained of sensation of tightness and disagreeable pressure, with increased cough, and, on deep inspiration, of pain in the right side of the chest about the inferior angle of the scapula. On the following day he felt acute pain in the right hypochondrium stretching to the loins, which was, however, relieved by the application of a blister; and the cough, which had somewhat abated, was accompanied by slight expectoration. A day or two afterwards, on examining the chest, a gurgling sound, extending from the inferior scapular region to the right hypochondrium, was distinctly audible on inspiration and coughing. General anasarca supervened, and increased somewhat rapidly. In the course of the next few days the expectoration became decidedly purulent, and of a greenish colour, followed by copious general sweating and marked diminution of the dropsical effusion. The strength, however, declined, the cough became less frequent, the expectoration ceased, the breathing was laborious and hurried, the pulse small and rapid, the urine suppressed, the face and extremities livid, and death soon followed.

What was the nature of this disease? What appearances would you expect to find on examination of the body after death? What treatment would you have advised?

Sed inter hæc quidem, proposito metu, spes tamen super est: ad ultima verò jam ventum esse testantur nares acutæ, collapsa tempora, oculi concavi, frigidæ languidæque aures et imis partibus leniter versæ, cutis circa frontem dura et intenta, color aut niger aut perpallidus; multòque magis, si ita hæc sunt, ut neque vigilia præcesserit, neque ventris resolutio, neque inedia. Ex quibus causis interdum hæc species oritur, sed uno die finitur; itaque diutius durans mortis index est. Si verò in morbo vetere jam triduo talis est, in propinquo mors est: magisque, si præter hæc oculi quoque lumen refugiunt et illacrymant; quæque in iis alba esse debent, rubescunt; atque in iisdem venulæ pallent, pituitaque in iis innatans novissimé angulis inhærescit; alterque ex his minor est: iique aut vehementer subsederunt, aut facti tumidiores sunt; perque somnum palpebræ non committuntur, sed inter has ex albo oculorum aliquid apparet, neque id fluens alvus expressit: eædemque palpebræ pallent, et idem pallor labra et nares decolorat; eademque labra et nares, oculique et palpebræ, et supercilia, aliquave ex his pervertuntur: isque propter imbecillitatem jam non audit, aut non videt. Eadem mors denunciatur, ubi æger supinus cubat, eique genua contracta sunt: ubi deorsùm ad pedes subindè delabitur: ubi brachia et crura nudat et inæqualiter dispergit, neque iis calor subest: ubi hiat: ubi assiduè dormit: ubi is qui mentis suæ non est, neque id facere sanus solet, dentibus stridet: ubi ulcus, quod aut antè, aut in ipso morbo natum est, aridum, et aut pallidum aut lividum factum est.

MEDICINE.

Tuesday, November 27.—Morning, 10 to 1.

Examiners, Dr. BILLING and Dr. TWEEDIE.

1. Explain how facial palsy is to be distinguished from palsy of the face arising from cerebral disease.

2. Describe the different forms of chorea, with the various plans of treatment that have been recommended.

3. Describe the symptoms of pneumonia general and local, its anatomical characters, diagnosis, and treatment.

4. Describe the more important organic diseases of the stomach, with the diagnostic symptoms of each.

Afternoon, 3 to 6.

1. Describe the anatomical characters of cirrhosis. Explain its nature and consequences. Sketch its treatment.

2. When blood is discharged by the urethra, mention its sources, and the circumstances which determine the diagnosis.

3. Distinguish narcotic poisoning from apoplexy, and other cerebral diseases accompanied by coma.

4. Describe the diagnostic symptoms, nature and treatment of angina pectoris.

A NEW REMEDY FOR HYDROPHOBIA.—M. Rocher d'Hericourt, who has lately returned from a voyage in Abyssinia, has brought with him numerous specimens of a plant, the root of which, reduced to powder, is a cure for hydrophobia, both in men and animals. Of its virtues M. d'Hericourt had practical proof; four dogs and a man having been bitten by a mad dog, were, by application of the remedy, cured of the hydrophobia which ensued; whilst a fourth dog (bitten at the same time by the same animal), to which the remedy was not given, perished in all the agony of that horrible disease. The virtue of the plant, and the manner of preparing it for use, were explained to the traveller by a potentate of the country, who assured him that it was there generally used, and never failed. The specimens brought over by M. d'Hericourt have been submitted to the Academie des Sciences, and a Committee of that learned body has been appointed to test their efficacy. If, as it is confidently hoped, the plants have not lost their virtue in this European clime, the world will soon be put in possession of the means of curing one of the most frightful diseases to which flesh is heir, and M. Rocher d'Hericourt will have the glory of having conferred an inestimable blessing on mankind.—Paris Correspondent of the *Literary Gazette*.

HEALTH OF LONDON DURING THE WEEK ENDING DEC. 22.

The Deaths registered in the week were 119 below the average. In the corresponding week of the year 1846, 1276 deaths were returned; in that of 1847, 1946 deaths, when the mortality was increased by influenza; and in the same week of 1848, the deaths were 1118. But, though still considerably less than usual, the weekly contingent now shows a tendency to rise to the winter rate of mortality, and the present return shows an increase of 41 on the deaths of the previous week. In three successive weeks ending December 15, the deaths from bronchitis were respectively 60, 86, 89; last week they rose to 110, whilst the average is only 68; from asthma there were 21, 16, 26, and 19 in the last four weeks; and from pneumonia (or inflammation of the lungs) 91, 88, 90, and 81. The mortality from pneumonia, which is less than the average, occurs to a much greater extent among children than aged persons; and the latter class are now the principal sufferers from the increased coldness of the weather. Three men and five women died last week at 90 years and upwards; two of the women had turned 95 years. From diarrhœa and dysentery the deaths were 19; a woman of 70 died on the 16th December, in Great Pulteney street, from debility which succeeded an attack of cholera. All epidemics are less fatal than usual, except measles, which rather exceeds the average.

The mean daily reading of the barometer at Greenwich Observatory was above 30 inches on the last three days of the week; the mean of the week was 29·952. The daily mean temperature, which was 51° on Sunday, gradually fell to 33° on Friday and Saturday; the mean of the week was 42°, rather more than the average of the same week in seven years. The daily mean was about 10° above the average on Sunday and Tuesday, and 6° below it on Friday.

MORTALITY TABLE,

(Metropolis.)

For the Week ending Saturday, Dec. 15, 1849.

CAUSES OF DEATH.	Total.	Average of Five Autumns.
ALL CAUSES	1043	1162
SPECIFIED CAUSES	1040	1158
Zymotic (or Epidemic, Endemic, and Contagious) Diseases	197	307
SPORADIC DISEASES:		
Dropsy, Cancer and other Diseases of uncertain or variable seat	36	49
Tubercular Diseases	155	178
Diseases of the brain, Spinal Marrow, Nerves, and Senses	131	125
Diseases of the Heart and Blood-vessels	39	40
Diseases of the Lungs, and of the other Organs of Respiration	227	214
Diseases of the Stomach, Liver, and other Organs of Digestion	50	65
Diseases of the Kidneys, &c.	10	11
Childbirth, Diseases of the Uterus, &c.	4	10
Rheumatism, Diseases of the Bones, Joints &c.	11	8
Diseases of the Skin, Cellular Tissue, &c.	2	1
Malformations	2	4
Premature Birth and Debility	25	23
Atrophy	33	18
Age	45	57
Sudden	31	12
Violence, Privation, Cold, and Intemperance	41	36
Causes not Specified	3	4

The following is the number of Deaths occurring from some of the more important special causes:—

Apoplexy	41	Heart	34	Phthisis	120
Bronchitis ...	110	Hooping cough	22	Pneumonia ...	81
Cholera.........	1	Hydrocephalus	21	Scarlatina	29
Childbirth	2	Influenza	7	Small pox	10
Convulsions...	37	Liver	8	Stomach	6
Diarrhœa	13	Lungs	11	Teething	12
Dropsy	12	Measles	48	Typhus	31
Erysipelas ...	2	Paralysis	21	Uterus	1

BIRTHS AND DEATHS.

	Births.	Deaths.	Births over Deaths.
Males	652	530	152
Females	671	513	158
Total......	1353	1043	310

METEOROLOGY OF THE WEEK.

Day.	Mean of Barometer.	Mean of Thermometer. Dry.	Ditto. Dew Point.	Difference between the Mean Temperature of the day and the same day on an average of 7 years.	General Direction of Wind.* A.M.	General Direction of Wind.* P.M.	Amount of Horizontal Movement of the Air. Miles	Rain in Inches.	Electricity.*
Sunday	29·738	39·9	46·0	−10·3	S.W.	S.S.W.	265	0·06	No electricity was shown during the week.
Monday	29·509	45·2	43·6	+ 7·6	S.W.	W.S.W.	230	0·20	
Tuesday......	29·478	49·0	47·0	+ 9·5	S.S.W.	S.W.	305	0·19	
Wednesday.	29·952	43·0	34·6	+ 3·0	S.W.	N.	135	0·10	
Thursday ...	30·124	37·7	32·4	− 1·3	N.N.W.	N.N.W.	90	0·05	
Friday	30·341	32·9	30·4	− 6·1	N.	N.N.E.	125	0·01	
Saturday ...	30·434	33·3	30·5	− 5·2	N.N.E.	N.N.E	100	0·00	
Means ...	29·952	42·3	37·8	+ 2·5			sum 1250	sum 0·45	

* In this Column, A stands for Active; N. for Negative; and P. for Positive.

MEDICAL NEWS.

APOTHECARIES' HALL.—Names of Gentlemen who passed their Examination in the Science and Practice of Medicine, and received Certificates to Practise, on Thursday, Dec. 20. 1849:—William Arthur, St. Ives, Huntingdon; George Thomas William Mugliston, West Ham; John Horner, Lincoln; William James Moore, Hales Owen, Shropshire; William Darroch Pennington Swain, Westmoreland; John Humphry, Deal, Kent; Theodore Edward Ladd, Manchester; Henry Miles Cockerton, Rochford, Essex; Jackson Goodenough, Kent, Hampton.

NAVAL APPOINTMENTS.—Assistant Surgeon J. A. Corbett, of the Pluto, serving on the coast of Africa, to be Surgeon; Assisting Surgeon James Fisher, M.D., serving in the Powerful, on the Mediterranean Station, to be Surgeon. Alexander Armstrong, M.D., (1849,) Surgeon, and Henry Piers, (1842, Assist.-Surgeon to the Investigator; David L. Morgan, (1846,) Assist.-Surgeon to the Poictiers, 72 depot ship in ordinary, Chatham.

OBITUARY.—On the 18th inst., at Ripon, Alfred Smith, Esq., Surgeon, aged 42.

PROFESSOR OPOLZER, formerly of Prague, and then of the University of Leipzig, has returned to Austria as surgeon to the Emperor. He is also to direct clinical study at the University of Vienna. For the first time the official announcement has been made in the *Gazette*, with "Herr" placed before the name." Hitherto Austrian etiquette has not allowed such prefix to similar appointments.

PROFESSOR BALASSA, of Pesth, the well-known teacher, who was imprisoned by order of General Haynau, has been set at liberty, and has resumed his Con'cal Le'tu'es.

INDIAN NEWS.—Dr. J. Burnes, K. H. Physician-General, is about to retire from the service. The masonic lodges of the Presidency, have subscribed a sum for the establishment of medals in his honour at the Byculla Schools and Grant College, Bombay, and at the Montrose Academy, Scotland, where he was educated.

DELIRIUM TREMENS.—At the trial of the younger Monkhouse, for attempting to murder his father, one of the surgeons said he attended the prisoner of a delirium tremens fifteen years ago. As the younger Monkhouse was stated in the indictment to be twenty-eight years of age, the attack of delirium tremens must have occurred when he was thirteen—a rather early age for that disease.

LEEDS INFIRMARY.—Mr. Beckwith, the late Secretary to this Institution, has been sentenced to seven years' transportation for embezzling upwards of 1000*l*. from the funds of the Infirmary.

THE CHOLERA AND THE SLAVE-TRADE.—It is said that the cholera has destroyed a great many slaves at the Havannah, and that, in consequence, a number of well-manned and well armed slavers have been fitted out for the African coast to supply the places of those thus destroyed.

CRETINISM.—From a Report which has been presented to the King of Sardinia we gather, that more than 7000 of his subjects are afflicted with cretinism. It exists in twenty-two provinces of the kingdom.

HUGO v. FRANCIS.—This was an action tried in the Crediton County Court, to recover a charge of 2*l*. 10s. for surgical attendance on the defendant, and for sundry boxes of ointment supplied to her. It appeared that the defendant, an elderly lady of considerable property, having a bad leg, was informed that the plaintiff's father had cured a poor woman of a bad leg by a certain ointment. She accordingly sent him for a box of the same, which he very properly refused to supply unless he previously saw the case. He, in consequence, was sent for, and furnished the ointment. He alleged, in his evidence, that he also sent four other boxes, and attended at different times during a twelvemonth, his charge being ultimately 2*l*. 10s., for which, payment being refused, after waiting several years, he took out a summons, describing himself therein as a surgeon-apothecary. On cross-examination it appeared that he held only the license of the Apothecaries' Company, and was not a member of the College of Surgeons. This, the counsel for the defendant contended, must quash the case, as Mr. Hugo had described himself as both; if he were only an apothecary, he said, he could not charge for attendance. For the defence it was asserted that only two boxes of ointment were supplied, and that Mr. Hugo only visited the defendant once. Two medical men stated, on oath, that the proper charge for each box was from 1s. 6d. to 2s. The Judge said that he could not decide that Mr. Hugo was entitled to charge for attendance, but he thought Miss Francis might be

mistaken in the number of boxes of ointment she had had. His judgment was, that Miss Francis pay for five boxes of ointment at 2s. per box, amounting to 10s. It follows from this, that the law of the County Courts differs greatly from that of the Court of Queen's Bench. In the proceedings instituted by Mr. Handey, of the Waterloo-road, against a refractory patient, whose name we at the moment forget, the principle was established that general practitioners, duly qualified, as Mr. Hugo undoubtedly is, were justified in charging for visits and could recover such charges, although medicines were sent at the same time, and moderate charges made for them. The recent case of Vickers v. Skipton also proves the same. That was a case of fracture of the jaw, and the surgeon recovered more than 10s. a visit, besides his charge for medicines. The statement that Mr. Hugo's not holding the diploma of the College of Surgeons disentitled him to charge for attendance, is absurd, to say the least for it. Every qualified medical man is entitled to charge for his attendance. A verdict for 30s., being at the rate of 5s. a visit, in addition to 10s. for the boxes of ointment, would have better met the justice of the case. It is probable, that, if Mr. Hugo were to move for a new trial on these grounds, he would get one, and ultimately increased damages.

THE following has been circulated by the Council of the Provincial Medical Association among its members:—

"In compliance with the resolution passed at the Annual Meeting, held at Worcester, the annexed questions have been carefully framed, and it is earnestly requested by the Council, that the members of the Provincial Medical and Surgical Association will assist in this laudable purpose, by forwarding as full and complete a series of answers as possible, to Mr. Hunt, 26, Bedford-square, London, who has kindly undertaken the inquiry.

"CHARLES HASTINGS,
"President of the Council.

"QUESTIONS.

"1. During the prevalence of the epidemic, has your own neighbourhood, town, or district, been *exempted* from the visitation? If so, can you mention any local circumstances which may account for the exemption? Was the district healthy during the visitation of the cholera about the year 1832, and did circumstances then exist which may be supposed to have protected it?

"2. If the cholera (a) *has* appeared in your district, how many cases have you seen? How many of these have been fatal?

"3. *When* did the disease break out, and *how long* did it prevail? Please to state, generally, whether many persons were simultaneously attacked, or other wise; and whether it commenced contemporaneously in more than one *site* in the same town or district, or whether it appeared to spread from one point only. Were there any peculiar circumstances observable in its local character, or in the course or direction of its advance, which may throw any light upon the important question, whether the disease be of a *contagious* (b) nature or otherwise?

"4. Have you invariably been able to trace the disease to *local impurity of the atmosphere*, or have you seen it attack persons living in a pure air, apart from graveyards and other sources of putrefaction, in well-drained and well ventilated dwellings? In cases of the latter description, if any have been observed, has there been any intercourse with the sick, which may tend to establish the doctrine of *contagion*, or the reverse.

"5. Did the cholera ever appear in your neighbourhood *with or without* the general and contemporaneous appearance of the *milder forms* of disease—diarrhœa, bilious cholera, &c.? Has dysentery or typhus been prevalent or otherwise?

"6. Were its ravages indiscriminate as to personal vigour, age, sex, station, occupation, &c; or might the attacks be traced to some *predisposing personal cause*,—as weak bowels, intemperance, debility, fear, errors in diet, uncleanly or sedentary habits, or impaired health from any cause?

"7. Were 'premonitary' symptoms of general occurrence, or did the disease frequently appear suddenly in the malignant form with violent cramps, vomiting and purging, 'rice-water' dejections, and rapid collapse?

"8. Did the symptoms differ from those generally observed, and frequently described? Had the disease any peculiar type, either of mildness or malignity?

"9. Are you aware of any exempting circumstances of any description which have uniformly protected certain individuals from the disease,—such as trades, habits, diet, &c., not inclusive of local habitation?

"10. Can you throw any light on the *physical origin* of remote cause of the recent or former visitation? Are you able to say, from your own observation, that the general symptoms and history of both are similar? Have you instituted any researches into the density, humidity, temperature, or electro-magnetic phenomena of the atmosphere? Have you observed the progress of the cholera to be arrested by storms, wind, or rain?

"11. Have you made any *post-mortem* examinations of fatal cases of cholera, and with what result? Do you know of any circumstances which justify the immediate interment of the dead? Did you ever observe cholera patients show signs of organic life for hours or days after apparent death?

"12. Can you describe any method or principle of treatment which has proved successful in so large a number of cases of *cholera*, as to commend it to universal adoption? If so, has not the method frequently failed in other hands, and can you explain the cause of failure?

"13. What mode of *treating* the epidemic *diarrhœa* and premonitory symptoms generally have you found most successful?

"14. Can you suggest any means of preventing or arresting the spread of the disease, in the event of any future outbreak?

"What is your opinion as to the propriety of removing the inhabitants, who have not taken the disease, from the infected dwellings to houses of refuge, in situations where the presumed causes of the disease are not in operation?"

(a) It is proposed, to avoid confusion of terms, to restrict the term *cholera* to cases of vomiting, purging, cramp, and rice-water evacuations; the term, *bilious cholera*, to vomiting and purging of bile, with cramps; and the term, *diarrhœa*, to profuse alvine discharges, without either vomiting or cramps.

"(b) A house or district may be *infected*, so as to spread a disease not strictly *contagious*. Respondents are therefore requested to confine the latter term to evidence of communication by personal approach or contact.

TREATMENT OF CHOLERA AT ST. BARTHOLOMEW'S HOSPITAL.—The first admission of cholera patients into this Institution commenced on the 17th of June last, and terminated on the 6th of October. During this time, 478 cases were treated by the three physicians and the apothecary, viz.:—253 males, and 225 females. The deaths were 199.

	Patients.	Died.
There were under the care of Dr. Hue	145	63
Ditto .. .. Dr. Roupell	170	63
Ditto .. .. Dr. Burrows	163	73
	478	199

The mode of treatment was as follows:—Immediately, on admission, the patient was placed in a hot-bath, and, as soon as removed, wrapped in hot blankets; friction was then perseveringly applied, suitable medicines administered, and the urgent thirst alleviated with "ice cold water." Most of the cases, when admitted, exhibited the disease in its most virulent form.

PAROCHIAL ILLIBERALITY.—We have often had occasion to condemn Boards of Guardians for their parsimony; but the following instance is so disgraceful, that we can hardly give credit to the report. It appears, that a poor woman named Louisa Eames, nursed two cholera cases for thirteen days and seven nights, for which she made the charge of 10s. being at the rate of 6d. for each twelve hours. Her attention was described by the surgeon as unremitting, and yet these save-all Guardians, instead of paying her 2s. 6d. for each twelve hours, as they ought to have done, after considerable deliberation, cut down her claim to 7s. 6d. To the credit of the Clerk of the Board, and two of the members, one a clergyman, they advocated the payment of an additional 10s. to her bill. Surely when the attention of the Poor-law Commissioner has been directed to this matter, he will overrule the decision of the guardians; if not, the parishioners themselves ought to take up the matter, and, moreover, should expel those recusant members of the Board, who value such service at so paltry a rate. In private life, we believe, there is not a member of any board of guardians who would not be ashamed to offer a nurse less than 5s. a day under such circumstances. Eames made a monstrously low demand,—6d. a day; to cut that down to 4½d. was atrociously mean. Perhaps they call this doing their duty to their constituents.

TO CORRESPONDENTS.

Letters "On Certain Effects of an Inveterate Habit of Smoking," by Mr. Levison, of Brighton; on "the Cholera at Penzance," by Mr. Couch; from X. Y., on "the Commissioners in Lunacy"; Dr. Thompson, of Tyrone; Mr. Startin on "Glycerine;" Dr. Roe, of Plymouth; M.D., Lond., on "Professor Jamieson's late Lecture at Aberdeen,"—are in print. A press of matter must be our excuse for delaying their publication.

"Mr. A. McClure, of H.M.S. 'Indefatigable,'" informs us, that he had prepared a reply to Mr. Chubb's letter in our last; but, understanding that in our present Number we should probably publish a communication from Dr. Millar, surgeon of the Royal Marines, on the same subject, he begs to delay it until he has had the opportunity of replying to both at the same time, and thus not needlessly to occupy our columns.

We regret that we cannot in the present Number comply with the request of our valued friend at Birmingham. We will do so next week.

"Mr. Wells, of Crewkerne," requests we will insert, in an early Number of our Journal, "a list of the different prize subjects in medicine and surgery, now offered for competition by the different medical societies, &c., with a short sketch of the condition under which they are to be competed for." The suggestion is good, and we will endeavour to comply with the request of our respected correspondent.

"Mr. Hullmandell" has forwarded his Razor-strop *for review*. It has already been favourably noticed by Dr. Ure, Mr. Lewis Thompson, of Lambeth, Mr. Erasmus Wilson, Mr. Crofton Croker, of the Admiralty, and Monsieur Roux, of the French Embassy. We will send it to our roughest-bearded contributor, and publish his report.

"Anti-Humbug."—We think, "enough is as good as a feast."

Will Mr. Lancaster kindly repeat his question.

"Mr. J. A. Coffey," inventor of the Esculapian Still and Condenser, must make us acquainted with his invention, and shew us its *professional* advantages, before we can undertake to introduce it to our readers.

"Viator" asks information concerning the appointment of surgeon to an emigrant vessel, and the duties which devolve upon a medical man when appointed. No passenger ship having fifty persons on board, if the length of the voyage exceed twelve weeks, or whatever the length of the voyage when a hundred persons are on board, can go to sea without having a duly qualified Physician, Surgeon, or Apothecary on board, and rated on the ship's articles. It is necessary that the medical practitioner be approved by the emigration officer at the port of clearance. No passenger-ship bound to North America, having a hundred persons on board, can proceed on the voyage without a medical officer. 2. The owner of the vessel must provide a medicine-chest, with a proper supply of medicine, instruments, and other things necessary for diseases and accidents, incident to sea voyages; such chests to be examined and approved by a medical practitioner appointed by the emigration officer at the port of clearance. 3. The surgeon has authority to enforce all rules and regulations for the preservation of the health of the passengers.

"A Young Navy Surgeon" asks our opinion in reference to the gaseous emanations from the bilge-water of ships. There is no doubt that the gases, whether offensive or not, which escape from foul holds, conduce greatly to generate disease. In the Eclair, though the holds were thought to be perfectly clean, they were found subsequently to have a collection of mud three inches deep, upon that portion of her bottom occupied by the boilers and machinery. When the holds of the Growler were opened at Woolwich, after her return from Africa, two men who slept over the hatchway were seized with a most malignant fever, which proved fatal in a few days. Foul holds are something like foul sewers.

"Provincial" wishes to know the best solvent of arsenous acid. We believe hydrochloric acid, which takes up a considerable quantity, especially when heated.

"Dental" asks us the most frequent causes of necrosis of the teeth. Mechanical violence or inflammation of the alveoli; it may also be produced by salivation and fever.

"Leonard B." inquires the best method of saturating water with sulphuretted hydrogen gas. Distilled water should be used at a low temperature, and the gas rapidly passed into it. Two stoppered bottles should be employed, being one-third full of water. The gas is then transmitted into one till it is completely filled with it, the atmospheric air being displaced, then transfer the gas-delivering tube to the second bottle, and immediately close the mouth of the other, and shake it so as to bring the gas in contact with the water. During this time the second bottle will be filled with the sulphuretted hydrogen, and the tube conveying it being again transferred to the other, this bottle just filled is agitated with its contents till absorption is completed. The process is carried on till no more gas is absorbed by the water. The saturated water is then put into small bottles, which should be completely filled, well stopped, and kept with their mouths inverted, in a vessel of cold water.

"Pharmacien."—Mucilage is much better than an alkali for making an emulsion with castor-oil or copaiba; but an alkali is better with oil of almonds. It is said that a small portion of borax greatly improves an emulsion. We would not, however, recommend the addition of this salt.

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